

TSG-9140 Hardware Installation and Configuration

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Contact Information

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Caution

Changes or modifications to this product could void the user's warranty and authority to operate this device.

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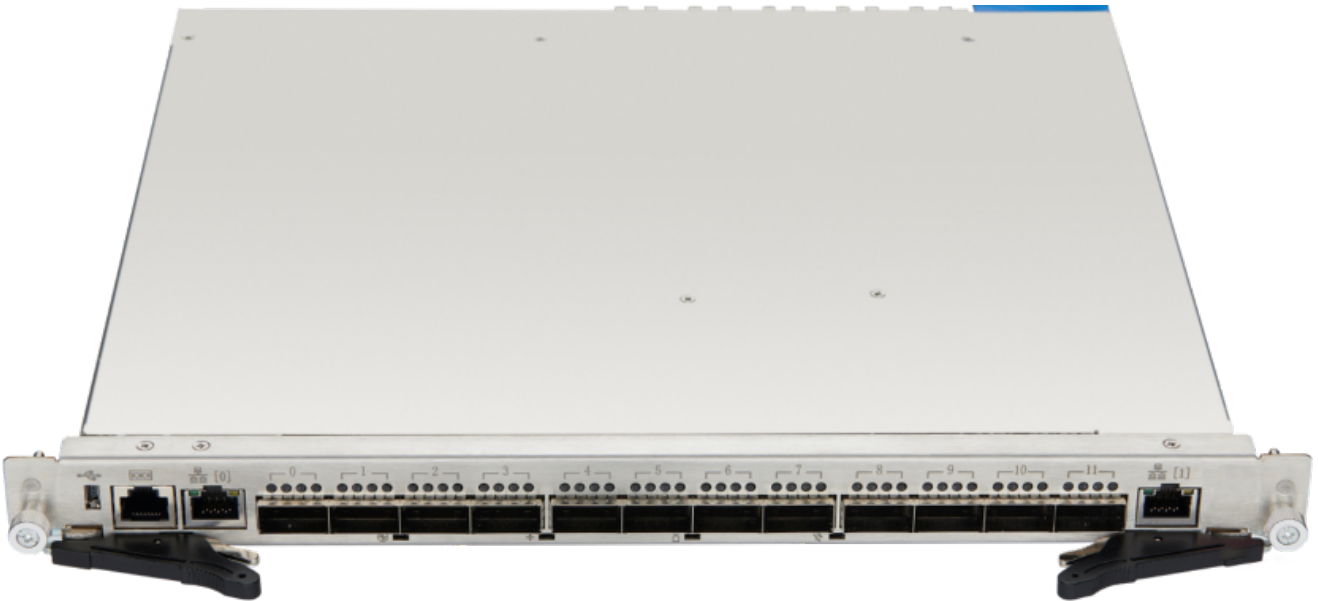
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1 9000-SMBIO-Po1Ro1

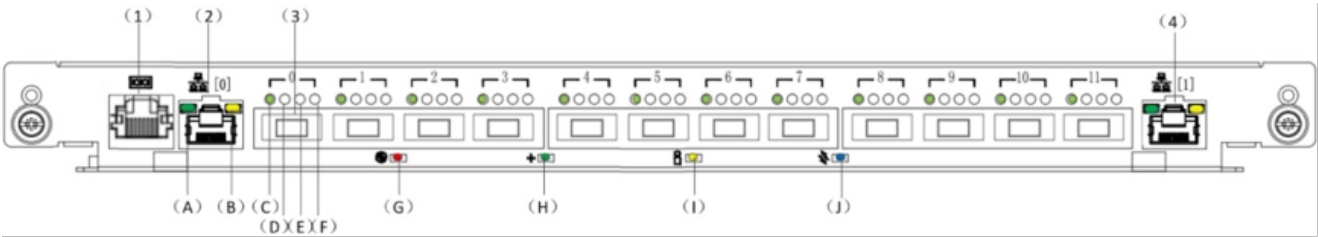
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 - Set the system time:
 - Set system time NTP synchronization (optional)
 - Configure DNS (optional)
- Software Upgrade
 - Backup System Configuration
 - Upload upgrade package
 - Start to upgrade

1.1 Product Overview

9000-SMBIO-Po1Ro1 is a 100G switch board based on the ATCA architecture. The backplane complies with the standard PICMG 3.1 (Option 9) specification. 9000-SMBIO-Po1Ro1 can be used as a standard ATCA exchange card, and can also be used with other application processing cards of the company to build a flexible application processing solution.



9000-SMBIO-Po1Ro1 Appearance Picture



9000-SMBIO-Po1Ro1 Front Panel Diagram

1.1.1 Interface Description:

SN	Interface Identifier	Description
1		RJ45 management serial port
2	 [0]	RJ45 management network port 1, directly connected to the management CPU

SN	Interface Identifier	Description
3		12 QSFP28 optical ports, please refer to QSFP28 optical port description for details
4	 [1]	RJ45 management network port 2, connected to the base switch of the board

1.1.2 QSFP28 Optical interface description:

SN	Interface Rate	Interface Name	Interface Type	Link Group ID
0	10GE	Eth-10G-1/1/0.0	External	20
	10GE	Eth-10G-1/1/0.1	Internal	
	10GE	Eth-10G-1/1/0.2	External	21
	10GE	Eth-10G-1/1/0.3	Internal	
1	10GE	Eth-10G-1/1/1.0	External	22
	10GE	Eth-10G-1/1/1.1	Internal	
	10GE	Eth-10G-1/1/1.2	External	23
	10GE	Eth-10G-1/1/1.3	Internal	
2	10GE	Eth-10G-1/1/2.0	External	24
	10GE	Eth-10G-1/1/2.1	Internal	
	10GE	Eth-10G-1/1/2.2	External	25
	10GE	Eth-10G-1/1/2.3	Internal	

SN	Interface Rate	Interface Name	Interface Type	Link Group ID
3	10GE	Eth-10G-1/1/3.0	External	26
	10GE	Eth-10G-1/1/3.1	Internal	
	10GE	Eth-10G-1/1/3.2	External	27
	10GE	Eth-10G-1/1/3.3	Internal	
4	100GE	Eth-100G-1/1/4	External	28
5	100GE	Eth-100G-1/1/5	Internal	
6	100GE	Eth-100G-1/1/6	External	29
7	100GE	Eth-100G-1/1/7	Internal	
8	100GE	Eth-100G-1/1/8	External	30
9	100GE	Eth-100G-1/1/9	Internal	
10	100GE	Eth-100G-1/1/10	External	31
11	100GE	Eth-100G-1/1/11	Internal	

1.1.3 Indicator Light Description:

S N	Light Identifier	Indicator Name	Col or	Description
A	(None)	Management network port connection	Green	Off: No connection Solid: Connected

S N	Light Identifier	Indicator Name	Col or	Description
B	(None)	Management network port running	Yell ow	Off: Not running Solid: Running Blinking: There is traffic bypassing
C	(None)	Optical interface	Gre en	Off: link down Solid: link up When the port is not split, this light indicates the link status of the 100GE/40GE port When the port is split into four 25G/10G/GE, this light indicates the link status of the first port after splitting
D	(None)	Optical interface	Gre en	When the port is split into four 25G/10G/GE, this light indicates the link status of the second port after splitting Off: link down Solid: link up
E	(None)	Optical interface	Gre en	When the port is split into four 25G/10G/GE, this light indicates the link status of the third port after splitting Off: link down Solid: link up
F	(None)	Optical interface	Gre en	When the port is split into four 25G/10G/GE, this light indicates the link status of the fourth port after splitting Off: link down Solid: link up

S N	Light Identifier	Indicator Name	Col or	Description
G		Alert OOS	Re d	Blinking: When the temperature, voltage, current and other monitoring of the device reach general alarm thresholds, the red light is blinking. Solid: When the temperature, voltage, current and other monitoring of the device reach important alarm thresholds, the red light is steady on. Off: When the temperature, voltage, current and other monitoring of the device reach critical alarm thresholds, the device will power down to protect itself and the light is off; or when there is no alarm, there light is off.
H		Power	Gre en	Solid: The sled is powered on normally.
I		Reserved	Yell ow	Reserved, unused
J		H/S (Hot Swap)	Blu e	Solid: indicates that the sled is not powered on or powered off Off: indicates that the sled is powered on

1.2 Software configuration

1.2.1 Configure device management port IP

When the device is powered on for the first time, we need to log in to the device through the serial cable to configure the IP address of the device management port, and the baud rate of the serial port connection is 115200.

1. Connect the 9000-SMBIO-P01R01 device through the serial port:

Username: root

Initial password: eb-20170122

```
Open Network Linux OS ONL-master, 2019-03-13.09:53-01c6896

9000-SMBIO-P01R01-1 login: root
Password:
Last login: Sat Oct  9 16:36:52 CST 2021 from 192.168.32.19 on pts/4
Linux 9000-SMBIO-P01R01-1 3.16.56-OpenNetworkLinux #1 SMP Mon Jan 11
08:54:24 UTC 2021 x86_64
root@9000-SMBIO-P01R01-1:~#
```

2. Set the management port IP address through the fw_setenv command:

Set IP: fw_setenv mgmtipaddr xxx

Set the subnet mask: fw_setenv mgmtnetmask xxx

Set the gateway: fw_setenv mgmtgateway xxx

```
root@9000-SMBIO-P01R01-1:~# fw_setenv mgmtipaddr 192.168.40.79
root@9000-SMBIO-P01R01-1:~# fw_setenv mgmtnetmask 255.255.252.0
root@9000-SMBIO-P01R01-1:~# fw_setenv mgmtgateway 192.168.41.1
```

3. The ifconfig command verifies whether the IP is set successfully:

Command: ifconfig

```
root@9000-SMBIO-P01R01-1:~# ifconfig
mgmt0      Link encap:Ethernet  HWaddr 00:30:64:37:42:17
            inet      addr:192.168.40.79          Bcast:192.168.43.255
Mask:255.255.252.0
            inet6 addr: fe80::230:64ff:fe37:4217/64 Scope:Link
            UP BROADCAST RUNNING MASTER MULTICAST  MTU:1500  Metric:1
            RX packets:10754679 errors:0 dropped:46 overruns:0 frame:0
            TX packets:4042161 errors:0 dropped:0 overruns:0 carrier:0
```

```
collisions:0 txqueuelen:0
RX bytes:842105448 (803.0 MiB) TX bytes:1602173539 (1.4 GiB)
```

1.2.2 Load factory configuration

1. Upload the initial configuration file to the /root directory:

```
root@9000-SMBIO-P01R01-1:~# ls smbio-cfg
smbio-cfg
```

2. Enter the kCli command to enter the network management program:

Command: kCli

Username: admin

Password: 111111

```
root@9000-SMBIO-P01R01-1:~# kCli
*****
* Copyright (c) Gdnt Technology Co.,Ltd. *
* All rights Reserved. *
*****
Login: admin
Password:
admin@9000-SMBIO-P01R01-1>
```

3. Enter configure terminal from the command line to enter the configuration interface:

Command: configure terminal

```
admin@9000-SMBIO-P01R01-1> configure terminal
admin@9000-SMBIO-P01R01-1(config)#
```

4. On the command line, enter the show node all command to check whether the node is Active:

Command: show node all


```
admin@9000-SMBIO-P01R01-1(config)# show node all
Card State Info:
  Locate      Type      Active      Online      Version
RunningTime  Description
  1/0         9000-SMBIO-P01R01      false      false      2.0.0.11    10 Days
02:15:26     S3300E + RTM-32XE
  1/1         9000-SMBIO-P01R01-FP  false      false      2.0.0.11    10 Days
02:15:26     12x100GE
  1/5         9000-SMBRTM-32XE      false      false      2.0.0.11    10 Days
02:15:24     RTM-32XE
admin@9000-SMBIO-P01R01-1(config)#
```

5. If the Active status is false, you need to manually activate:

Command: node active <node id>

node active 1/0

node active 1/1

node active 1/5

```
admin@9000-SMBIO-P01R01-1(config)# node active 1/0
admin@9000-SMBIO-P01R01-1(config)# node active 1/1
admin@9000-SMBIO-P01R01-1(config)# node active 1/5
```

Check the node status again:

Command: show node all

```
admin@9000-SMBIO-P01R01-1(config)# show node all
Card State Info:
  Locate      Type      Active      Online      Version
RunningTime  Description
  1/0         9000-SMBIO-P01R01      true       true       2.0.0.11    10 Days
02:15:26     S3300E + RTM-32XE
  1/1         9000-SMBIO-P01R01-FP  true       true       2.0.0.11    10 Days
02:15:26     12x100GE
  1/5         9000-SMBRTM-32XE      true       true       2.0.0.11    10 Days
```

```
02:15:24    RTM-32XE
admin@9000-SMBIO-P01R01-1(config)#
```

6. Enter load smbion-cfg on the command line to load the initial configuration:

Command: load smbion-cfg

```
admin@9000-SMBIO-P01R01-1(config)# load smbion-cfg
loading.....0%
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
```

```

Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/6 set speed 40000 successfully.
Port 1/1/7 set speed 40000 successfully.
loading.....100%
Done, take 44 seconds
admin@9000-SMBIO-P01R01-1(config)#

```

7. View the link group through the show linkpg brief command:

Command: show linkpg brief

```
admin@9000-SMBIO-P01R01-1(config)# show linkpg brief
```

Slot	Id	Uplinkport	Downlinkport	Router	Shock	Rate(%)	State
Optdev		Optstaus					
1	1	1/5/0	1/5/1	same	20	70	normal
--	--						
1	2	1/5/2	1/5/3	same	5	70	normal
--	--						
1	3	1/5/4	1/5/5	same	5	70	normal
--	--						
1	4	1/5/6	1/5/7	same	5	70	normal
--	--						
1	5	1/5/8	1/5/9	same	5	70	
abnormal	--	--	--				
1	6	1/5/10	1/5/11	same	5	70	
abnormal	--	--	--				
1	7	1/5/12	1/5/13	same	5	70	
abnormal	--	--	--				
1	8	1/5/14	1/5/15	same	5	70	
abnormal	--	--	--				
1	9	1/5/16	1/5/17	same	5	70	
abnormal	--	--	--				
1	10	1/5/18	1/5/19	same	5	70	
abnormal	--	--	--				
1	11	1/5/20	1/5/21	same	5	70	
abnormal	--	--	--				
1	12	1/5/22	1/5/23	same	5	70	
abnormal	--	--	--				
1	13	1/5/24	1/5/25	same	5	70	
abnormal	--	--	--				
1	14	1/5/26	1/5/27	same	5	70	
abnormal	--	--	--				
1	15	1/5/28	1/5/29	same	5	70	
abnormal	--	--	--				
1	16	1/5/30	1/5/31	same	5	70	
abnormal	--	--	--				
1	21	1/1/0.2	1/1/0.3	same	5	70	
abnormal	--	--	--				
1	22	1/1/1.0	1/1/1.1	same	5	70	
abnormal	--	--	--				
1	23	1/1/1.2	1/1/1.3	same	5	70	
abnormal	--	--	--				
1	24	1/1/2.0	1/1/2.1	same	5	70	
abnormal	--	--	--				

```

1      25      1/1/2.2      1/1/2.3      same      5      70
abnormal --      --
1      26      1/1/3.0      1/1/3.1      same      5      70
abnormal --      --
1      27      1/1/3.2      1/1/3.3      same      5      70
abnormal --      --
1      28      1/1/4        1/1/5        same      5      70
abnormal --      --
1      29      1/1/6        1/1/7        same      5      70      normal
--      --
1      30      1/1/8        1/1/9        same      5      70
abnormal --      --
1      31      1/1/10      1/1/11      same      5      70
abnormal --      --
admin@9000-SMBIO-P01R01-1(config)#

```

8. Use the linkpg id command to enter the link group that needs to be configured with optical protection:

Command: linkpg id 1

```

admin@9000-SMBIO-P01R01-1(config)# linkpg id 1
admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#

```

9. Use the optical command to bind the specified optical line protection(OLP) brief slot:

Command: optical bind slot 1 optdev 1 channel <optical security sub-card serial number>

For example, the serial number of the optical line protection brief slot is 3: optical bind slot 1 optdev 1 channel 3

```

admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#optical bind slot 1
optdev 1 channel 3
admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#

```

10. View the configuration of the optical line protection brief slot of this link group through the show this command:

Command: show this

```
admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#show this
current running configuration of this node:
linkport add 1/5/0_0 1/5/1_1 route same
drop-rate 70 period 4 alarm-threshold 80
drop-rate-en disable
shock threshold 20
rx-fcs-rate enable
rx-down enable
rx-down-edge enable
rx-power disable
bypass disable
optical bind slot 1 optdev 1 channel 3
admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#
```

11. After the configuration is successful, enter the exit command to exit this item:

Command: exit

```
admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#exit
admin@9000-SMBIO-P01R01-1(config)#
```

12. Enter slot 1 optdev 1 on the command line to enter the optical line protection configuration item:

Command: slot 1 optdev 1

```
admin@9000-SMBIO-P01R01-1(config)# slot 1 optdev 1
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#
```

13. Use the channel command to bind the IP of the optical line protection device to the optical line protection brief slot set:

Command: channel <brief slot serial number> type xinNuo_6500 ip <optical line protection IP> port 6800

Example: channel 3 type xinNuo_6500 ip 192.168.40.76 port 6800

```
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#channel 3 type
xinNuo_6500 ip 192.168.40.76 port 6800
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#
```

14. Configure the corresponding channel as force-bypass through the channel command:

Command: channel <brief slot serial number> workmode force-bypass

Example: channel 3 workmode force-bypass

```
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#channel 3 workmode
force-bypass
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#
```

15. View the configuration through the show this command:

Command: show this

```
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#show this
current running configuration of this node:
slot 1 optdev 1
channel 3 type xinNuo_6500 ip 192.168.40.76 port 6800
channel 3 heart interval 2 count 6
channel 3 auto-switchback on
channel 3 auto-switchback delay 2
channel 3 workmode force-bypass
channel 3 poll-state time 1
!exit
exit
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#
```

Note: The device needs to be set to force-bypass when it leaves the factory, wait for on-site deployment and switch to auto mode after the test is completed. The specific operations for switching to auto mode are as follows

a. Switch to force-pass first

Command: channel <brief slot serial number> workmode force-bypass

Example: channel 3 workmode force-bypass

```
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#channel 3 workmode
force-pass
```

b. Switch to auto

Command: channel <brief slot serial number> workmode auto

Example: channel 3 workmode auto

```
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#channel 3 workmode
auto
```

16. Enter the exit command on the command line to exit this configuration item:

Command: exit

```
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#exit
admin@9000-SMBIO-P01R01-1(config)#
```

17. At this point, the device has been loaded and the initial configuration has been completed

1.2.3 Change Password

1.2.3.1 Modify the admin password of the network management device (optional):

Note: If you need to modify the network management software password, you can modify it through the following steps.

a. Enter the network management system through the kCli command

Command: kCli

b. Enter the configure terminal command to enter the configuration interface

Command: configure terminal

c. Enter the passwd command to change the password

Command: passwd


```
admin@9000-SMBIO-P01R01-1(config)# passwd
New password:
Retype password:
Password changed by admin
admin@9000-SMBIO-P01R01-1(config)#
```

1.2.3.2 Modify system password (optional)

Note: If you need to modify the system password, you can modify it through the following steps.

- a. Enter the passwd command in the system terminal to modify the root password

Command: passwd

```
root@9000-SMBIO-P01R01-1:~# passwd
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
```

1.2.4 Modify the system Hostname (optional)

Note: If you need to modify the Hostname, you can modify it through the following steps.

1. Use the fw_setenv command to set the Hostname

Command: fw_setenv hostoverride <hostname>

Example: fw_setenv hostoverride SMBIO

```
root@9000-SMBIO-P01R01-1:~# fw_setenv hostoverride SMBIO
```

2. reboot the device to take effect

Command: reboot

```
root@9000-SMBIO-P01R01-1:~# reboot
```

3. The hostname configuration takes effect after the device restarts

```
root@SMBIO-1:~#
```

1.2.5 Modify system time zone/time

1.2.5.1 Set the system time zone:

- a. Set the time zone through the `sw_setenv tzoverride` command

Command: `fw_setenv tzoverride <time zone>`

Example: `fw_setenv tzoverride UTC`

```
root@9000-SMBIO-P01R01-1:~# fw_setenv tzoverride UTC
```

- b. reboot to take effect

Command: `reboot`

```
root@9000-SMBIO-P01R01-1:~# reboot
```

1.2.5.2 Set the system time:

- a. Set the system time through the `date` command

Command: `date -s "year-month-day hour:minute:second"`

Example: `date -s "2021-09-28 10:14:30"`

```
root@9000-SMBIO-P01R01-1:~# date -s "2021-09-28 10:14:30"
Tue Sep 28 10:14:30 CST 2021
```

- b. Synchronize to the hardware through the command `hwclock --systohc`

Command: `hwclock --systohc`

```
root@9000-SMBIO-P01R01-1:~# hwclock --systohc
root@9000-SMBIO-P01R01-1:~#
```

1.2.5.3 Set system time NTP synchronization (optional)

Note: If you need to set NTP time synchronization, you can modify it through the following steps

1. If the configured NTP server is configured by domain name, you need to configure DNS first (see the section on DNS configuration)
2. Enter the /etc/cron.hourly directory

Command: `cd /etc/cron.hourly/`

```
root@9000-SMBIO-P01R01-1:~# cd /etc/cron.hourly/
root@9000-SMBIO-P01R01-1:/etc/cron.hourly#
```

3. Create the ntpupdate directory

Command: `touch ntpupdate`

```
root@9000-SMBIO-P01R01-1:/etc/cron.hourly# touch ntpupdate
root@9000-SMBIO-P01R01-1:/etc/cron.hourly#
```

4. Edit this file

Command: `vim ntpupdate`

Add the following configuration:

```
#!/bin/bash
service ntp stop
ntpdate -b <ntp Server IP/Domain>
hwclock -systohc
```

Example:

```
#!/bin/bash
service ntp stop
ntpdate -b 0.centos.pool.ntp.org
hwclock --systohc
```

5. Add permissions to this file

Command: `chmod 0777 ntpupdate`

```
root@9000-SMBIO-P01R01-1:/etc/cron.hourly# chmod 0777 ntpupdate
root@9000-SMBIO-P01R01-1:/etc/cron.hourly#
```

6. Execute this file synchronization time

Command: `./ntpupdate`

```
root@9000-SMBIO-P01R01-1:/etc/cron.hourly# ./ntpupdate
[ ok ] Stopping NTP server: ntpd.
28 Sep 10:33:46 ntpdate[20206]: step time server 118.143.17.82 offset
-0.000682 sec
root@9000-SMBIO-P01R01-1:/etc/cron.hourly#
```

1.2.6 Configure DNS (optional)

Note: If you need to set up DNS, you can do it through the following steps

1. Use vim to edit the `/etc/resolvconf/resolv.conf.d/head` file

Command: `vim /etc/resolvconf/resolv.conf.d/head`

```
vim /etc/resolvconf/resolv.conf.d/head
```

2. Add the DNS you want to set

Format: `nameserver x.x.x.x`

```
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by  
resolvconf(8)  
#      DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN  
nameserver 8.8.8.8
```

3. Reboot to take effect

Command: reboot

```
root@9000-SMBIO-P01R01-1:~# reboot
```

1.3 Software Upgrade

1.3.1 Backup System Configuration

1. Execute kCli in the /root/ directory to enter the network management program

Command: kCli

2. Enter configure terminal in the terminal to enter the configuration layer

Command: configure terminal

3. Use the write command to save the configuration

Command: write file name

Example: write smb-io-config

```
admin@9000-SMBIO-P01R01-1(config)# write smb-io-config  
admin@9000-SMBIO-P01R01-1(config)#
```

1.3.2 Upload upgrade package

1. Upload the upgrade package to the /root directory

```

root@9000-SMBIO-P01R01-1:~# ls VELA-NMS-2.0.0.11.bin
VELA-NMS-2.0.0.11.bin
root@9000-SMBIO-P01R01-1:~#

```

2. Add 777 permissions to the upgrade package

Command: `chmod 0777 <file name>`

Example: `chmod 0777 VELA-NMS-2.0.0.7.bin`

```

root@9000-SMBIO-P01R01-1:~# chmod 0777 VELA-NMS-2.0.0.11.bin
root@9000-SMBIO-P01R01-1:~#

```

1.3.3 Start to upgrade

1../VELA-NMS-2.0.0.11.bin for software upgrade

Command: `./VELA-NMS-2.0.0.11.bin`

```

root@9000-SMBIO-P01R01-1:~# ./VELA-NMS-2.0.0.11.bin
Verifying archive integrity... All good.
Uncompressing VELA-NMS 100%
Stopping Element:OK.
Verifying archive integrity... All good.
Uncompressing OEM_MAKESELF 100%
install package in installed mode!
cp: cannot stat '/mnt/on1/data/nvstore/bootmisc/app_tool': No such file
or directory
cp: cannot stat '/mnt/on1/data/nvstore/bootmisc/app_tool': No such file
or directory
chmod: cannot access '/bin/app_tool': No such file or directory
extracting BAREFOOT-BSP_CPIO-9.1.0.tar.bz2
installing BAREFOOT-BSP_CPIO.cpio
Verifying archive integrity... All good.
Uncompressing ELITE-S3300 100%
Verifying archive integrity... All good.
Uncompressing baseDrv-x86_64 100%
Base Switch Install Success!
installing bsp to fs.....
S3300 BSP Install Success!

```

```

Verifying archive integrity... All good.
Uncompressing p4-tna-vela 100%
<<<<<install p4 tofino vela>>>>>>>>
tofino vela Install Success!
Verifying archive integrity... All good.
Uncompressing switch-vela-s3300 100%
Fabric switch stop      [ OK ]
/tmp/selfgz2325127839
<<<<<install swith-vela-s3300>>>>>>>>
Using bf-sde-8.6.0 in /elite/fabric_switch
rmmod: ERROR: Module bf_knet is not currently loaded
rmmod: ERROR: Module bf_kpkt is not currently loaded
/tmp/selfgz2325127839
Starting PD-API RPC server on port 9090
Fabric switch start     [ OK ]
swith-vela-s3300 Install Success!
./install.sh: line 35: ./installfile/RTM20XG-*.bin: No such file or
directory
Verifying archive integrity... All good.
Uncompressing vela-nms 100%
Adding Thrift service for P4 program vela to server
Adding Thrift service for bf-platforms to server
WARNING: No route found for IPv6 destination :: (no default route?)
WARNING:root:ROCEv2 support not found in Scapy
Stopping Element:OK.
Stopping Element:OK.
libelem_chkpt_api.so.1
libelem_cluster_api.so.1
libelem_ha_api.so.1
libelem_instrument_api.so.1
libelem_mobj_api.so.1
libelem_msg_api.so.1
libelem_rel_api.so.1
Starting mcast:                [ OK ]
Starting Element:OK.
kernel.msgmnb = 32768
Stopping Element:OK.
Starting Element:OK.
Verifying archive integrity... All good.
Uncompressing BASE SNMP agent 100%
cp: omitting directory './mibs/private'
Copy the SNMP set command and trap scripts ...

```

```
[....] Stopping SNMP services:: snmpd[....] Starting SNMP services::
snmpdroot@9000-SMBIO-P01R01-1:~#
```

2. Check the version number after the upgrade is complete

Command: cat /etc/sbin/dev_info.conf

```
root@9000-SMBIO-P01R01-1:~# cat /etc/sbin/dev_info.conf
hostname=xxx
logo=
*****
* Copyright (c) Gdnt Technology Co.,Ltd. *
* All rights Reserved. *
*****
copyright=Copyright (c) Gdnt
url=http://www.gdnt.com.cn
sys_description=GDNT SYSTEM-VELA
version=2.0.0.11
root@9000-SMBIO-P01R01-1:~#
```

3. Sync file path

Command: sync

```
root@9000-SMBIO-P01R01-1:~# sync
root@9000-SMBIO-P01R01-1:~#
```

4. After the upgrade package is executed, execute the reboot command to restart the system

Command: reboot

```
root@9000-SMBIO-P01R01-1:~# reboot
The system is going down for reboot NOW!01R01-1 (pts/3) (Tue Sep 28
11:03:49
root@9000-SMBIO-P01R01-1:~#
```

5. After restarting, enter kCli to enter the network management software

Command: kCli

6. Enter configure terminal to enter the configuration item

Command: configure terminal

7. Enter show node all to view all nodes

Command: show node all

```

root@9000-SMBIO-P01R01-1:~# kCli
*****
* Copyright (c) Gdnt Technology Co.,Ltd.                                *
* All rights Reserved.                                                  *
*****
Login: admin
Password:
admin@9000-SMBIO-P01R01-1> configure terminal
admin@9000-SMBIO-P01R01-1(config)# show node all
Card State Info:
  Locate  Type                                Active  Online  Version
RunningTime      Description
  1/0      9000-SMBIO-P01R01                    false   false   2.0.0.11
0 Days 00:00:00    S3300E + RTM-32XE
  1/1      9000-SMBIO-P01R01-FP                  false   false   2.0.0.11
0 Days 00:00:00    12x100GE
  1/5      9000-SMBRTM-32XE                        false   false   2.0.0.11
0 Days 00:00:00    RTM-32XE
admin@9000-SMBIO-P01R01-1(config)#

```

8. Activate all nodes through the node command

Command: node active <node id>

Example:

```

node active 1/0
node active 1/1
node active 1/5

```

```
admin@9000-SMBIO-P01R01-1(config)# node active 1/0
admin@9000-SMBIO-P01R01-1(config)# node active 1/1
admin@9000-SMBIO-P01R01-1(config)# node active 1/5
admin@9000-SMBIO-P01R01-1(config)#
```

9. Enter show node all again to view node status

Command: show node all

```
admin@9000-SMBIO-P01R01-1(config)# show node all
Card State Info:
  Locate Type                Active Online Version
RunningTime      Description
  1/0      9000-SMBIO-P01R01    true   true   2.0.0.11
0 Days 00:00:37      S3300E + RTM-32XE
  1/1      9000-SMBIO-P01R01-FP true   true   2.0.0.11
0 Days 00:00:36      12x100GE
  1/5      9000-SMBRTM-32XE     true   true   2.0.0.11
0 Days 00:00:33      RTM-32XE
admin@9000-SMBIO-P01R01-1(config)#
```

10. Use the load command to load the configuration file

Command: load <file name>

Example: load smb-io-config

```
admin@9000-SMBIO-P01R01-1(config)# load smb-io-config
loading.....0%
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
```

```
Port 1/1/0.0 set speed 10000 successfully.
Port 1/1/0.1 set speed 10000 successfully.
Port 1/1/0.2 set speed 10000 successfully.
Port 1/1/0.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/1.0 set speed 10000 successfully.
Port 1/1/1.1 set speed 10000 successfully.
Port 1/1/1.2 set speed 10000 successfully.
Port 1/1/1.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/2.0 set speed 10000 successfully.
Port 1/1/2.1 set speed 10000 successfully.
Port 1/1/2.2 set speed 10000 successfully.
Port 1/1/2.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
```

```

Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/3.0 set speed 10000 successfully.
Port 1/1/3.1 set speed 10000 successfully.
Port 1/1/3.2 set speed 10000 successfully.
Port 1/1/3.3 set speed 10000 successfully.
Port 1/1/6 set speed 40000 successfully.
Port 1/1/7 set speed 40000 successfully.
loading.....100%
Done, take 42 seconds
admin@9000-SMBIO-P01R01-1(config)#

```

11. Use show running-config to verify that the configuration is loaded successfully

```

admin@9000-SMBIO-P01R01-1(config)#show running-config
current running configuration:
!command in config mode
service id 0 ip-mask capability 300
service id 1 ip-mask capability 300
service id 2 ip-mask capability 300
service id 3 ip-mask capability 300
service id 4 ip-mask capability 300
service id 5 ip-mask capability 300
service id 6 ip-mask capability 300
service id 7 ip-mask capability 300
service id 8 ip-mask capability 300
service id 9 ip-mask capability 300
service id 10 ip-mask capability 300
service id 11 ip-mask capability 300
service id 12 ip-mask capability 300
service id 13 ip-mask capability 300
service id 14 ip-mask capability 300
service id 15 ip-mask capability 300
!command in syslog mode
syslog
  snmp-trap ip 192.168.44.100  port 162  community public
  time-stamp-mode 6
!exit

```

```
exit
!command in eth interface mode
interface eth 1/0/0
    auto-negotiation
!exit
exit
interface eth 1/0/1
    no shutdown
    auto-negotiation
!exit
exit
interface eth 1/0/2
    auto-negotiation
!exit
exit
interface eth 1/0/3
    no shutdown
    auto-negotiation
!exit
exit
interface eth 1/0/4
    auto-negotiation
!exit
exit
interface eth 1/0/5
    shutdown
    auto-negotiation
!exit
exit
interface eth 1/0/6
    auto-negotiation
!exit
exit
interface eth 1/0/7
    shutdown
    auto-negotiation
!exit
exit
interface eth 1/0/8
    auto-negotiation
!exit
exit
interface eth 1/0/9
```

```
    shutdown
    auto-negotiation
!exit
exit
interface eth 1/0/10
    auto-negotiation
!exit
exit
interface eth 1/0/11
    auto-negotiation
!exit
exit
interface eth 1/0/12
    auto-negotiation
!exit
exit
interface eth 1/0/13
    auto-negotiation
!exit
exit
interface eth 1/1/0
    breakout
!exit
exit
... ..
```

12. If you have configured the system time zone, NTP service and DNS before the upgrade, you need to reconfigure.

13. So far, the equipment has been upgraded.

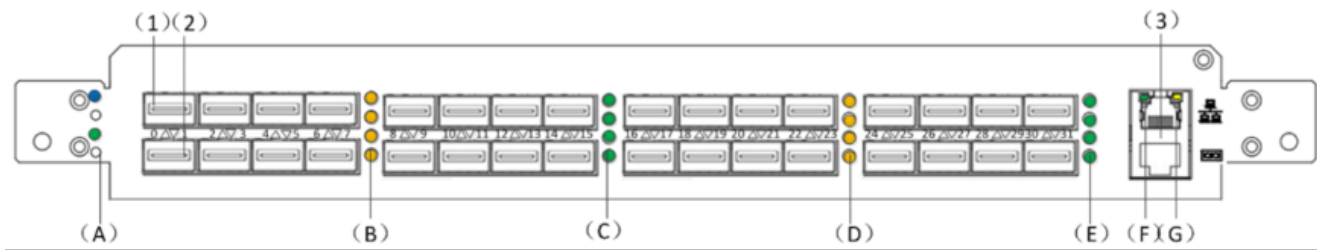
2 9000-SMBRTM-32XE

- Product Overview
 - Interface Description:
 - Indicator Light Description:
 - Description of the link group to which the interface belongs:

2.1 Product Overview



9000-SMBRTM-32XE Appearance Picture



2.1.1 Interface Description:

SN	Interface Identifier	Description
1	0 Δ	port 0 SFP+ optical interface, port rate 10GE
2	▽ 1	port 1 SFP+ optical interface, port rate 10GE

SN	Interface Identifier	Description
3	 	RJ45 management network port, port rate GE RJ45 management serial port

2.1.2 Indicator Light Description:

S N	Light Identifier	Light Name	Color	Description
A	(None)	Alert OOS	Blue	The system load domain is not powered on or powered off
	(None)		None	Reserved
	(None)		Green	After power-on, only the green light is on, and the sled is operating normally
	(None)		None	Reserved
B	(None)	Optical interface	Orange	0, 2, 4, 6 port indicator: Off: link down Solid: link up (Green when indicating port 1, 3, 5, and 7)
C	(None)	Optical interface	Green	9, 11, 13, 15 port indicator: Off: link down Solid: link up (Green when indicating port 8, 10, 12, 14)

S N	Light Identifier	Light Name	Color	Description
D	(None)	Optical interface	Orange	16, 18, 20, 22 port indicator: Off: link down Solid: link up (Green when indicating port 17, 19, 21, and 23)
E	(None)	Optical interface	Green	25, 27, 29, 31 port indicator: Off: link down Solid: link up (Orange when indicating port 24, 26, 28, 30)
F	(None)	Management network port connection	Green	Off: link down Solid: link up
G	(None)	Management network port running	Yellow	Off: link down Solid: link up Blinking: There is traffic bypassing

2.1.3 Description of the link group to which the interface belongs:

S N	Interface Rate	Interface Name	Interface Type	Link Group ID
0	10GE	Eth-10G-1/5/0	External	1
1	10GE	Eth-10G-1/5/1	Internal	
2	10GE	Eth-10G-1/5/2	External	2

3	10GE	Eth-10G-1/5/3	Internal	3
4	10GE	Eth-10G-1/5/4	External	
5	10GE	Eth-10G-1/5/5	Internal	
6	10GE	Eth-10G-1/5/6	External	4
7	10GE	Eth-10G-1/5/7	Internal	
8	10GE	Eth-10G-1/5/8	External	5
9	10GE	Eth-10G-1/5/9	Internal	
10	10GE	Eth-10G-1/5/10	External	6
11	10GE	Eth-10G-1/5/11	Internal	
12	10GE	Eth-10G-1/5/12	External	7
13	10GE	Eth-10G-1/5/13	Internal	
14	10GE	Eth-10G-1/5/14	External	8
15	10GE	Eth-10G-1/5/15	Internal	
16	10GE	Eth-10G-1/5/16	External	9
17	10GE	Eth-10G-1/5/17	Internal	
18	10GE	Eth-10G-1/5/18	External	10
19	10GE	Eth-10G-1/5/19	Internal	
20	10GE	Eth-10G-1/5/20	External	11

21	10GE	Eth-10G-1/5/21	Internal	
22	10GE	Eth-10G-1/5/22	External	12
23	10GE	Eth-10G-1/5/23	Internal	
24	10GE	Eth-10G-1/5/24	External	13
25	10GE	Eth-10G-1/5/25	Internal	
26	10GE	Eth-10G-1/5/26	External	14
27	10GE	Eth-10G-1/5/27	Internal	
28	10GE	Eth-10G-1/5/28	External	15
29	10GE	Eth-10G-1/5/29	Internal	
30	10GE	Eth-10G-1/5/30	External	16
31	10GE	Eth-10G-1/5/31	Internal	

3 9000-SMBCX-P01R01

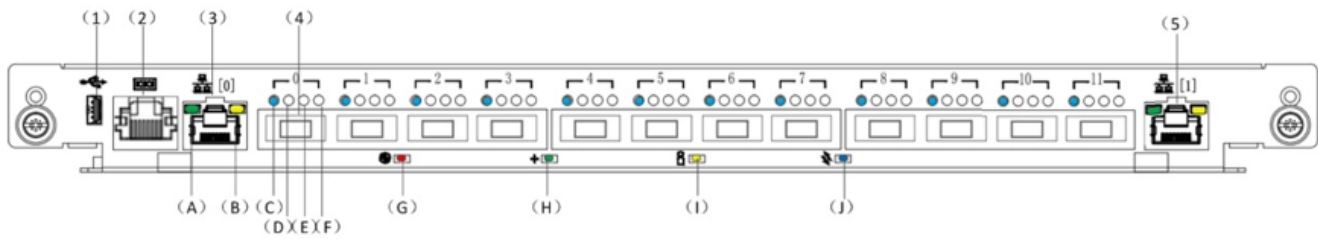
- Product Overview
 - Interface Description
 - QSFP28 Optical Interface Description:
 - Indicator Light Description:
- Software Configuration
 - Configure Device Management Port IP
 - Change Password
 - Modify the network management password (optional)
 - Modify system password (optional)
 - Modify the system Hostname (optional)
 - Modify system time zone/time
 - Set the system time zone
 - Set System Time
 - Set System Time NTP Synchronization (optional)
 - Configure DNS (optional)
- Software Upgrade
 - Upload Upgrade Package
 - Start to Upgrade
 - Enable FEC on the port (optional)

3.1 Product Overview

9000-SMBCX-P01R01 is a 100G switch sled based on the ATCA architecture. The backplane complies with the standard PICMG 3.1 (Option 9) specification. 9000-SMBCX-P01R01 can be used as a standard ATCA exchange card, and can also be used with other application processing cards to build a flexible application processing program.



9000-SMBCX-P01R01 Appearance Picture



9000-SMBCX-P01R01 Front Panel Diagram

3.1.1 Interface Description

SN	Interface Identifier	Description
1		Mini USB Interface
2		RJ45 Management serial port
3	 [0]	RJ45 Management network port 1, directly connected to the management CPU
4		12 QSFP28 optical ports, please refer to QSFP28 optical port description for specific instructions
5	 [1]	RJ45 management network port 2, connected to the base switch sled

3.1.2 QSFP28 Optical Interface Description:

S N	Interface Rate	Interface Name	Function	
0	100GE	Eth-100G-2/1/0	Policy and Log	Access
1	100GE	Eth-100G-2/1/1		
2	100GE	Eth-100G-2/1/2	Reserved	-
3	100GE	Eth-100G-2/1/3	Traffic Mirror	Trunk (vlan : 2-66)
4	100GE	Eth-100G-2/1/4	Decrypted Traffic Mirror	Trunk (vlan : 1025-1089)

3.1.3 Indicator Light Description:

S N	Light Identifier	Light Name	Color	Description
A	(None)	Management network port connection	Green	Off: No connection Solid: Connected
B	(None)	Management network port running	Yellow	Off: link down Solid: link up, no traffic Blinking: There is traffic bypassing

S N	Light Identifier	Light Name	Col or	Description
C	(None)	Optical interface	Blue	Off: link down Solid: link up When the port is not split, this light indicates the link status of the 100GE/40GE port When the port is split into 4 25G/10G, this light indicates the link status of the first port after splitting
D	(None)	Optical interface	Blue	When the port is split into 4 25G/10G, this light indicates the link status of the second port after splitting Off: link down Solid: link up
E	(None)	Optical interface	Blue	When the port is split into 4 25G/10G, this light indicates the link status of the third port after splitting Off: link down Solid: link up
F	(None)	Optical interface	Blue	When the port is split into 4 25G/10G, this light indicates the link status of the fourth port after splitting Off: link down Solid: link up

S N	Light Identifier	Light Name	Col or	Description
G		Alert OOS	Red	Blinking: When the temperature, voltage, current and other monitoring of the device reach general alarm thresholds, the red light is blinking. Solid: When the temperature, voltage, current and other monitoring of the device reach important alarm thresholds, the red light is steady on. Off: When the temperature, voltage, current and other monitoring of the device reach critical alarm thresholds, the device will power down to protect itself and the light is off; or when there is no alarm, the light is off.
H		Power	Green	Solid: The sled is powered on normally
I		Reserved	Yellow	Reserved, unused
J		H/S (Hot Swap)	Blue	Solid: indicates that the sled is not powered on or powered off Off: indicates that the sled is powered on

3.2 Software Configuration

3.2.1 Configure Device Management Port IP

When the device is powered on for the first time, we need to log in to the device through the serial cable to configure the IP address of the device management port, and the baud rate of the serial port connection is 115200.

1. Connect the 9000-SMBCX-P01R01 device through the serial port

Username: root

Initial password: ebsac.ko

```
9000-SMBCX-P01R01-2 login:root
[root@9000-SMBCX-P01R01-2 ~]#
```

2. Set the management port IP address through the fw_setenv command

Command:

```
Set IP: fw_setenv mgmtipaddr <ip addr>
Set the subnet mask:fw_setenv mgmtnetmask <mask>
Set up the gateway:fw_setenv mgmtgateway <gateway ip addr>
```

Example:

```
[root@9000-SMBCX-P01R01-2 ~]# fw_setenv mgmtipaddr 192.168.40.80
[root@9000-SMBCX-P01R01-2 ~]# fw_setenv mgmtnetmask 255.255.252.0
[root@9000-SMBCX-P01R01-2 ~]# fw_setenv mgmtgateway 192.168.41.1
```

3. Ifconfig command to verify whether the IP is set successfully:

Command: ifconfig

```
[root@9000-SMBCX-P01R01-2 ~]# ifconfig
bond0      Link encap:Ethernet  HWaddr 00:eb:9c:05:04:03
            inet      addr:192.168.40.80          Bcast:192.168.43.255
Mask:255.255.252.0
            inet6 addr: fe80::2eb:9cff:fe05:403/64 Scope:Link
            UP BROADCAST RUNNING MASTER MULTICAST  MTU:1500  Metric:1
            RX packets:9450965 errors:0 dropped:0 overruns:0 frame:0
            TX packets:1241020 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:0
            RX bytes:614052007 (585.6 MiB)  TX bytes:682326625 (650.7
MiB)
```

3.2.2 Change Password

3.2.2.1 Modify the network management password (optional)

Note: If you need to modify the network management password, you can modify it through the following steps

1. Enter the network management system through the kCli command

Command: kCli

The default user name of the network management system: admin
 Default password of the network management: 111111

2. Enter the configure terminal command to enter the configuration interface

Command: configure terminal

3. Enter the passwd command to change the password

Command: passwd

```
[root@9000-SMBCX-P01R01-2 ~]# kCli
*****
* Copyright (c) Gdnt Technology Co.,Ltd.                      *
* All rights Reserved.                                         *
*****
Login: admin
Password:
admin@9000-SMBCX-P01R01-2> configure terminal
admin@9000-SMBCX-P01R01-2(config)# passwd
New password:
Retype password:
Password changed by admin
admin@9000-SMBCX-P01R01-2(config)#
```

3.2.2.2 Modify system password (optional)

Note: If you need to modify the system password, you can modify it through the following steps

1. Enter the passwd command in the system terminal to modify the root password

Command: passwd

```
[root@9000-SMBCX-P01R01-2 ~]# passwd
Changing password for root
Enter the new password (minimum of 5 characters)
Please use a combination of upper and lower case letters and numbers.
New password:
Re-enter new password:
passwd: password changed.
[root@9000-SMBCX-P01R01-2 ~]#
```

3.2.3 Modify the system Hostname (optional)

Note: If you need to modify the Hostname, you can modify it through the following steps

1. Use the fw_setenv command to set the Hostname

Command: fw_setenv hostoverride <hostname>

Example: fw_setenv hostoverride SMBCX

```
[root@9000-SMBCX-P01R01-2 ~]# fw_setenv hostoverride SMBCX
[root@9000-SMBCX-P01R01-2 ~]#
```

2. reboot -nf restart the device to take effect

Command: reboot -nf

```
[root@9000-SMBCX-P01R01-2 ~]# reboot -rn
```

3. The hostname configuration takes effect after the device restarts

```
[root@SMBCX ~]#
```

3.2.4 Modify system time zone/time

3.2.4.1 Set the system time zone

1. Set by `sw_setenv tzoverride` command

Command: `fw_setenv tzoverride <time zone>`

Example: `fw_setenv tzoverride UTC`

```
[root@9000-SMBCX-P01R01-2 ~]# fw_setenv tzoverride UTC
```

2. Take effect after reboot

Command: `reboot`

```
[root@9000-SMBCX-P01R01-2 ~]# reboot
```

3.2.4.2 Set System Time

1. Set the system time through the `date` command

Command: `date -s "year-month-day hour:minute:second"`

Example: `date -s "2021-09-28 03:41:50"`

```
[root@9000-SMBCX-P01R01-2 ~]# date -s "2021-09-28 03:41:50"
Tue Sep 28 03:41:50 UTC 2021
[root@9000-SMBCX-P01R01-2 ~]#
```

2. Synchronize to the hardware through the command `eb_hwclock --systohc`

Command: `eb_hwclock --systohc`

```
[root@9000-SMBCX-P01R01-2 ~]# eb_hwclock --systohc
[root@9000-SMBCX-P01R01-2 ~]#
```

3.2.4.3 Set System Time NTP Synchronization (optional)

Note: If you need to set NTP time synchronization, you can modify it through the following steps

1. If the configured NTP server is configured by domain name, you need to configure DNS first (please refer to the DNS configuration chapter)
2. Enter the /etc/cron.hourly directory

Command: `cd /etc/cron.hourly/`

```
[root@9000-SMBCX-P01R01-2 ~]# cd /etc/cron.hourly/
[root@9000-SMBCX-P01R01-2 cron.hourly]#
```

3. Create ntpupdate file

Command: `touch ntpupdate`

```
[root@9000-SMBCX-P01R01-2 cron.hourly]# touch ntpupdate
```

4. Edit this file

Command: `vim ntpupdate`

Add the following configuration:

```
#!/bin/bash
service ntpd stop
ntpdate -b <ntp Server IP/Domain>
eb_hwclock -systohc
```

Example:

```
#!/bin/bash
service ntpd stop
ntpdate -b 0.centos.pool.ntp.org
eb_hwclock -systohc
```

5. Add permissions to this file

Command: `chmod 0777 ntpupdate`

```
[root@9000-SMBCX-P01R01-2 cron.hourly]# chmod 0777 ntpupdate  
[root@9000-SMBCX-P01R01-2 cron.hourly]#
```

6. Execute this file synchronization time

Command: `./ntpupdate`

```
[root@9000-SMBCX-P01R01-2 cron.hourly]# ./ntpupdate  
Stopping ntpd: start-stop-daemon: warning: killing process 2115: No  
such process  
done  
28 Sep 03:46:29 ntpdate[1622]: step time server 118.143.17.82 offset  
15.501937 sec  
[root@9000-SMBCX-P01R01-2 cron.hourly]#
```

3.2.5 Configure DNS (optional)

Note: If you need to set up DNS, you can do it through the following steps

1. Use vim to edit the `/etc/resolv.conf` file

Command: `vim/etc/resolv.conf`

```
[root@9000-SMBCX-P01R01-2 cron.hourly]# vim /etc/resolv.conf
```

2. Add the DNS you want to set

Format: `nameserver x.x.x.x`

```
nameserver 8.8.8.8
```

3.3 Software Upgrade

3.3.1 Upload Upgrade Package

1. Upload the upgrade package to the /tmp directory

```
[root@9000-SMBCX-P01R01-2 tmp]# ls VELA-NMS-2.0.0.11.bin
VELA-NMS-2.0.0.11.bin
[root@9000-SMBCX-P01R01-2 tmp]#
```

- ## 2. Add executable permissions to the upgrade package

Command: `chmod 0777 VELA-NMS-2.0.0.7.bin`

```
[root@9000-SMBCX-P01R01-2 tmp]# chmod 0777 VELA-NMS-2.0.0.11.bin
[root@9000-SMBCX-P01R01-2 tmp]#
```

3.3.2 Start to Upgrade

1. Execute `./VELA-NMS-2.0.0.7.bin` for software upgrade

Command: ./ VELA-NMS-2.0.0.7.bin

```
[root@9000-SMBCX-P01R01-2 tmp]# ./VELA-NMS-2.0.0.11.bin
Verifying archive integrity... All good.
Uncompressing VELA-NMS 100%
Stopping Element:OK
Verifying archive integrity... All good.
Uncompressing ELITE-S3200 100%
Fabric switch stop      [ OK ]
Base switch stop       [ OK ]
installing sys-setup.....
installing bsp to fs.....
ELITE-S3200 BSP Install Success!
Verifying archive integrity... All good.
Uncompressing switch-vela-s3200 100%
Fabric switch is not running.
<<<<<<install swith-vela-s3200>>>>>>>
```

```

/elite/fabric_switch
/tmp/selfgz2961927038
Fabric switch start    [  OK  ]
swith-vela-s3200 Install Success!
./install.sh: line 35: ./installfile/RTM20XG-*.bin: No such file or
directory
Verifying archive integrity... All good.
Uncompressing vela-nms 100%
Stopping Element:OK
sh: ./user_before.sh: No such file or directory
sh: ./user_after.sh: No such file or directory
Stopping Element:OK
libelem_chkpt_api.so.1
libelem_cluster_api.so.1
libelem_ha_api.so.1
libelem_instrument_api.so.1
libelem_mobj_api.so.1
libelem_msg_api.so.1
libelem_rel_api.so.1
Starting Element:OK
kernel.msgmnb = 32768
Stopping Element:OK
Starting Element:OK
Verifying archive integrity... All good.
Uncompressing BASE SNMP agent 100%
cp: omitting directory './mibs/private'
Copy the SNMP set command and trap scripts ...
Starting network management services: snmpd.
[root@9000-SMBCX-P01R01-2 tmp]#

```

2. Check the version number after the upgrade is complete

Command: cat /etc/sbin/dev_info.conf

```

[root@9000-SMBCX-P01R01-2 tmp]# cat /etc/sbin/dev_info.conf
hostname=xxx
logo=
*****
* Copyright (c) Gdnt Technology Co.,Ltd. *
* All rights Reserved. *
*****
copyright=Copyright (c) Gdnt

```



```
url=http://www.gdnt.com.cn
sys_description=GDNT SYSTEM-VELA
version=2.0.0.11
[root@9000-SMBCX-P01R01-2 tmp]#
```

3. Sync file path

Command: sync

```
[root@9000-SMBCX-P01R01-2 tmp]# sync
[root@9000-SMBCX-P01R01-2 tmp]#
```

4. reboot command to restart the system

Command: reboot

```
[root@9000-SMBCX-P01R01-2 tmp]# reboot
The system is going down for reboot NOW!01R01-2 (pts/0) (Tue Sep 28
04:10:30
[root@9000-SMBCX-P01R01-2 tmp]#
```

5. After restarting, enter kCli to enter the network management software

Command: kCli

6. Enter configure terminal to enter the configuration item

Command: configure terminal

7. Enter show node all to view all nodes

Command: show node all

```
[root@9000-SMBCX-P01R01-2 ~]# kCli
*****
* Copyright (c) Gdnt Technology Co.,Ltd. *
* All rights Reserved. *
*****
Login: admin
Password:
admin@9000-SMBCX-P01R01-2> configure terminal
```

```
admin@9000-SMBCX-P01R01-2(config)# show node all
Card State Info:
  Locate Type                Active Online Version
RunningTime      Description
  2/0      9000-SMBCX-P01R01    false  false  2.0.0.11
0 Days 00:00:00      S3200E
  2/1      9000-SMBCX-P01R01-FP false  false  2.0.0.11
0 Days 00:00:00      12X100GE
admin@9000-SMBCX-P01R01-2(config)#
```

8. Activate all nodes through the node command

Command: node active <node id>

node active 2/0

node active 2/1

```
admin@9000-SMBCX-P01R01-2(config)# node active 2/0
admin@9000-SMBCX-P01R01-2(config)# node active 2/1
```

9. Enter show node all again to view node status

Command: show node all

```
admin@9000-SMBCX-P01R01-2(config)# show node all
Card State Info:
  Locate Type                Active Online Version
RunningTime      Description
  2/0      9000-SMBCX-P01R01    true   true   2.0.0.11
0 Days 00:00:26      S3200E
  2/1      9000-SMBCX-P01R01-FP true   true   2.0.0.11
0 Days 00:00:24      12X100GE
admin@9000-SMBCX-P01R01-2(config)#
```

10. At this point, the software upgrade is complete. If the fec function is enabled on the peer switch, you need to enable fec on the corresponding port. The corresponding method is described below (optional)

3.3.3 Enable FEC on the port (optional)

Note: If you connect the 49000-SMBCX-P01R01 device to the corresponding switch port and enable FEC on the switch port, you need to enable FEC on the corresponding port on the 49000-SMBCX-P01R01 device.

1. Use vim to open the bp_fec_enable.c file

Command: vim /elite/fabric_switch/bp_fec_enable.c

```
[root@9000-SMBCX-P01R01-2 ~]# vim /elite/fabric_switch/bp_fec_enable.c
```

2. Add the following configuration at the end

```
bcm_port_phy_control_set(0, 34, BCM_PORT_PHY_CONTROL_FORWARD_ERROR_CORREC  
TION_CL91, 1);  
bcm_port_phy_control_set(0, 38, BCM_PORT_PHY_CONTROL_FORWARD_ERROR_CORREC  
TION_CL91, 1);  
bcm_port_phy_control_set(0, 46, BCM_PORT_PHY_CONTROL_FORWARD_ERROR_CORREC  
TION_CL91, 1);  
bcm_port_phy_control_set(0, 50, BCM_PORT_PHY_CONTROL_FORWARD_ERROR_CORREC  
TION_CL91, 1);
```

3. After saving and exiting, execute the fabric cint /elite/fabric_switch/bp_fec_enable.c command to activate the configuration

Command: fabric cint /elite/fabric_switch/bp_fec_enable.c

```
[root@9000-SMBCX-P01R01-2 ~]# fabric cint /elite/fabric_switch/  
bp_fec_enable.c  
argc=5  
rpc address = 127.0.0.1:11  
[root@9000-SMBCX-P01R01-2 ~]#
```

4 9000-NPB-P01R01

- Product Overview
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 - ONIE Upgrade
 - Enter ONIE RESCUE Mode
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 - ONIEReinstall

- TSG-OS Reinstall
 - Save Configuration File
 - Delete Historical Configuration
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 - Uninstall TSG-OS System

4.1 Product Overview

9000-NPB-P01R01 is a computing and processing system based on the X86 processor. The product adopts a standard ATCA architecture and a configurable design concept. It has outstanding features such as high flexibility, reliability, configurability, and scalability. The single board can provide dual CPUs, the front panel supports 2 10GE ports, and the backplane interactive channel can support 2 40GE/10GE ports, which is suitable for 40G and 100G standard ATCA chassis. As a computing component in the ATCA chassis, the product can complete various processing functions, including network data flow filtering, data alignment, bill generation, regular matching, etc. The equipment is widely used in various computing processing, data analysis and network security fields.



9000-NPB-P01R01 Appearance Picture

4.2 Software Installation

4.2.1 BIOS Settings

4.2.1.1 Enable Serial Port Redirection

1. Connect the 9000-NPB-PO1R01 device through the serial cable

Baud rate: 115200

2. After the device is powered on, press F2 to enter the BIOS according to the serial port output prompt

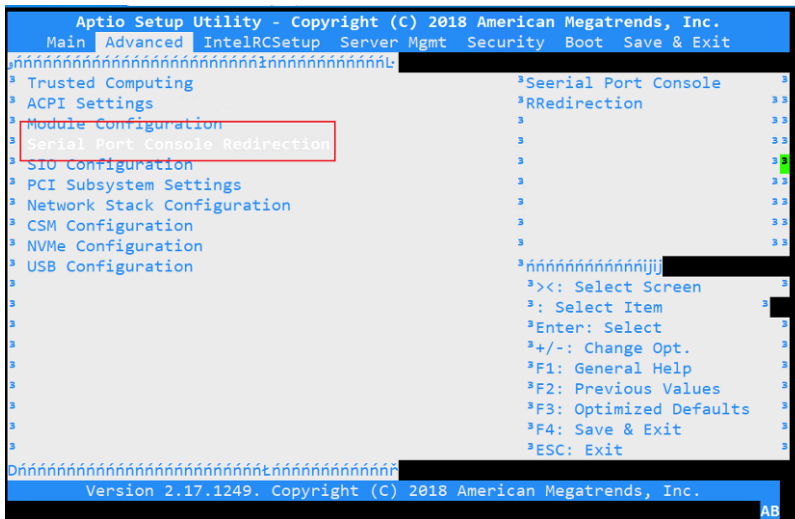
```
Memory Initializing...
PCI Bus Enumerating...

Version 2.17.1249. Copyright (C) 2018 American Megatrends, Inc.
BIOS Date: 03/23/2018 15:56:04 Ver: 02.01.03
Press <DEL> or <F2> to enter setup.
Entering Setup...

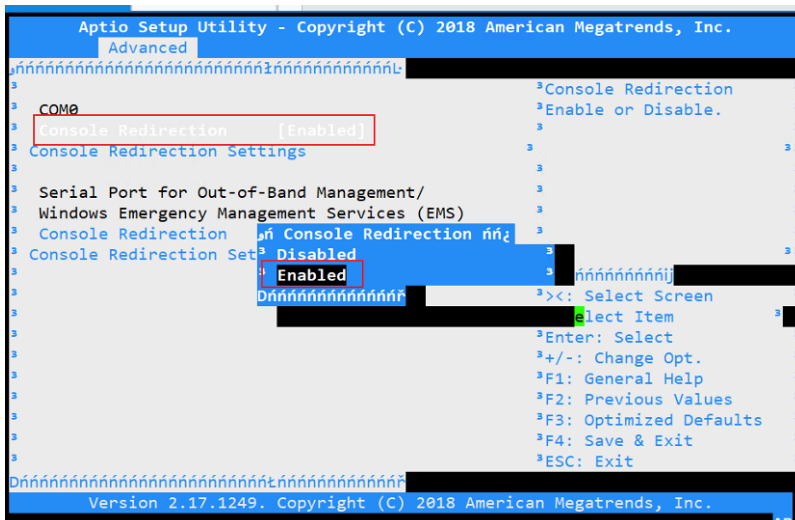
Board-Info:
BASE_BOARD_MANUFACTURER BASE_BOARD_PRODUCT_NAME BIOS Version 02.01.03
Boot Flash Selection: Flash 0
Previous Reset : Platform Reset
```

```
Aptio Setup Utility - Copyright (C) 2018 American Megatrends, Inc.
Main Advanced IntelRCSetup Server Mgmt Security Boot Save & Exit
BIOS Information
BIOS Vendor American Megatrends
Core Version 5.11
Compliance UEFI 2.4; PI 1.3
Project Version ACB300 02.01.03
Build Date and Time 03/23/2018 15:56:04
Access Level Administrator
Memory Information
Total Memory 131072 MB
System Language [English]
System Date [Mon 08/16/2021]
System Time [06:45:36]
Choose the system default language
><: Select Screen
: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.17.1249. Copyright (C) 2018 American Megatrends, Inc.
```

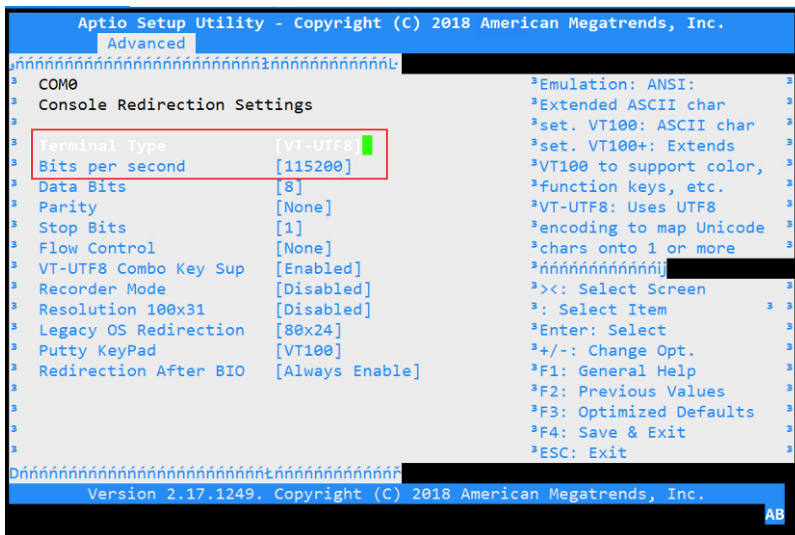
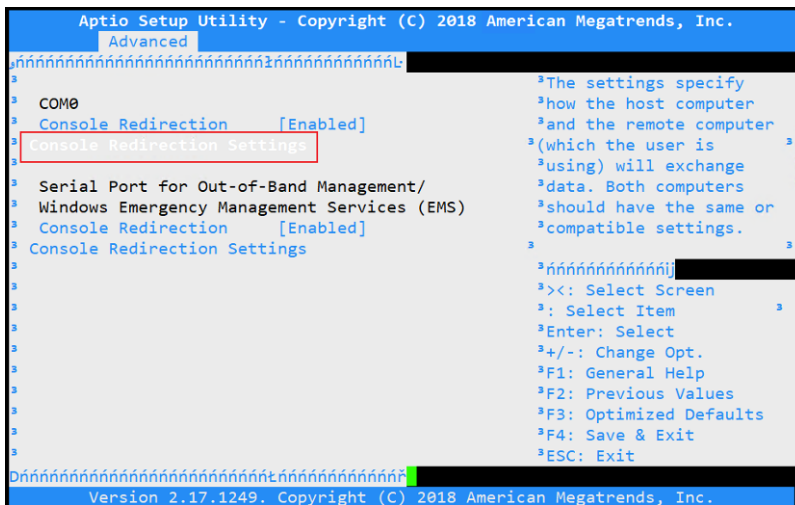
3. Select "Advanced-->Serial Port Console Redirection"



4. Turn on serial port redirection

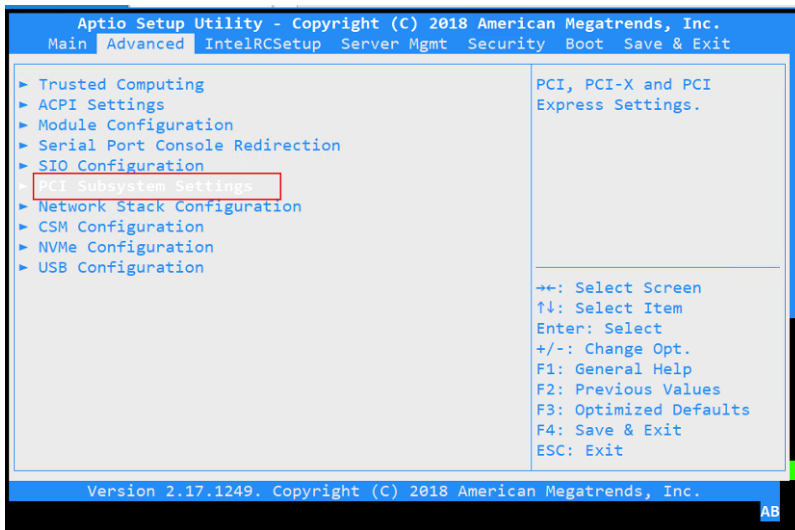


5. Select "Advanced-->Serial Port Console Redirection → Console Redirection Settings", set the baud rate to 115200, and the terminal type to VT-UTF8

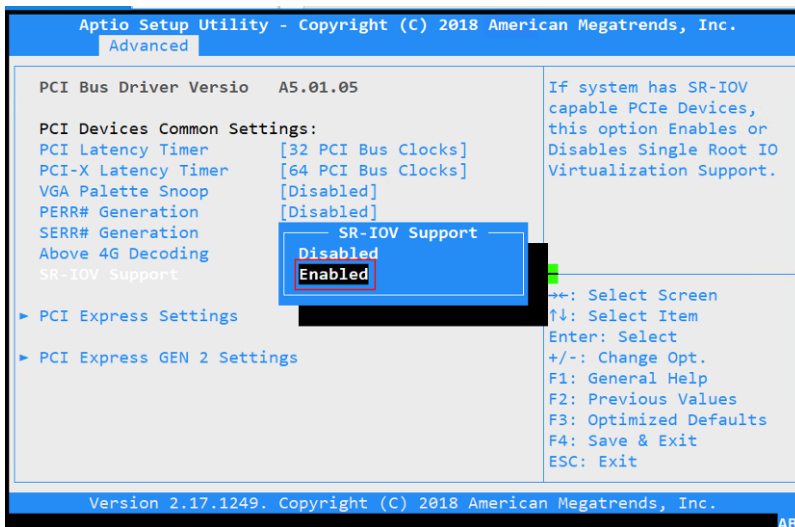


4.2.1.2 Turn on SRIOV

1. Select "Advanced --> PCI Subsystem Settings"

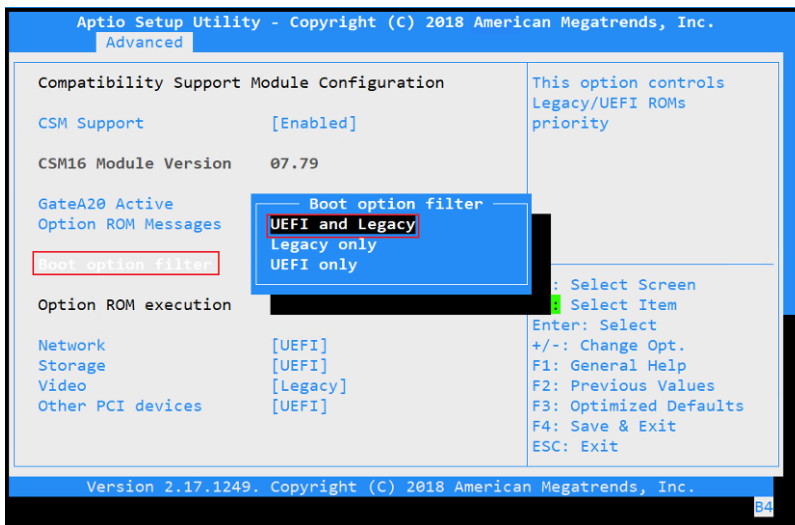


2. Turn on SR-IOV

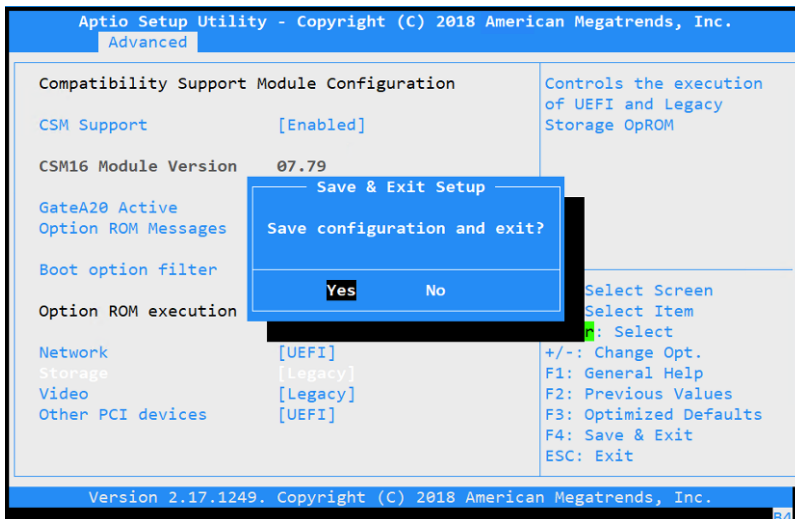


4.2.1.3 Turn on UEFI

1. Select "Advanced -->Boot option filter" to turn on UEFI



2. Press "F4" to save and exit



4.2.2 Install ONIE

1. Insert the U disk into the 9000-NPB-P01R01 device, and connect the 9000-NPB-P01R01 device through the serial cable

Baud rate: 115200

2. After the device is powered on, press F2 to enter the BIOS according to the serial port output prompt

```

Memory Initializing...

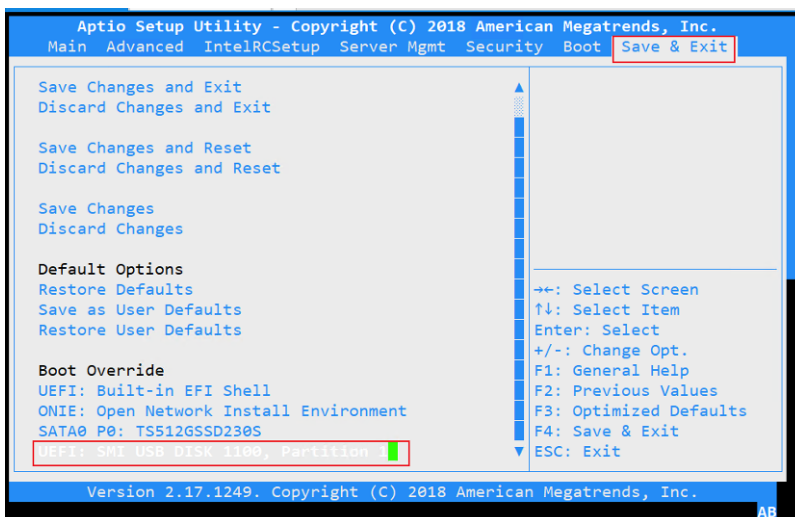
PCI Bus Enumerating...


Version 2.17.1249. Copyright (C) 2018 American Megatrends, Inc.
BIOS Date: 03/23/2018 15:56:04 Ver: 02.01.03
Press <DEL> or <F2> to enter setup.
Entering Setup...

Board-Info:
  BASE_BOARD_MANUFACTURER BASE_BOARD_PRODUCT_NAME BIOS Version 02.01.03
  Boot Flash Selection: Flash 0
  Previous Reset : Platform Reset

```

3. Select "Save&Exit --> UEFI: SMI USB DISK xxxx" U disk startup item



4. Select "Embed ONIE" to install ONIE



5. After the installation is successful, it will automatically restart

```
Stopping: discover...start-stop-daemon: warning: killing process 1760: No such process
done.
Stopping: dropbear ssh daemon... done.
Stopping: telnetd... done.
Stopping: klogd... done.
Stopping: syslogd... done.
Info: Unmounting kernel filesystems
umount: devtmpfs busy - remounted read-only
umount: can't unmount /: Invalid argument
The system is going down NOW!
Sent SIGTERM to all processes
Sent SIGKILL to systemd: Restarting system
Memory Initializing...
```

6. After restarting, it will automatically enter the ONIE system

```
NOTICE: ONIE started in NOS install mode. Install mode persists
NOTICE: until a NOS installer runs successfully.

** Installer Mode Enabled **
ONIE:/ #
ONIE:/ #
```

7. After the installation is successful, remove the U disk

4.2.3 Install TSG-OS

1. Upload the TSG-OS image package to the SMBIO or SMBCX device

```
root@9000-SMBIO-P01R01-1:/tmp# ls tsg-os-rel_21.08-202108161654100800-
d47539d-9000NPBP01R01-ONIE.bin
tsg-os-rel_21.08-202108161654100800-d47539d-9000NPBP01R01-ONIE.bin
root@9000-SMBIO-P01R01-1:/tmp#
```

2. Transmit to the target NPB device through the scp -P 2222 command

Corresponding device IP: 10.284.16+board number .1

Example:

The device is in slot 5, and the corresponding IP is 10.254.21.1

```
scp -P 2222 tsg-os-rel_21.08-202108161654100800-d47539d-9000NPBP01R01-ONIE.bin
10.254.21.1:/tmp
```

```
root@9000-SMBIO-P01R01-1:/tmp# scp -P 2222 tsg-os-
rel_21.08-202108161654100800-d47539d-9000NPBP01R01-ONIE.bin
10.254.21.1:/tmp
ONIE:/tmp #ls
```

```
tsg-os-rel_21.08-202108161654100800-d47539d-9000NPBP01R01-ONIE.bin
ONIE:/tmp #
```

3. Enter the /tmp directory in the ONIE system and execute the onie-nos-install command to install the image

Command: onie-nos-install tsg-os-rel_21.08-202108161654100800-d47539d-9000NPBP01R01-ONIE.bin

Note: The entire installation process takes about 15 minutes

4. After the installation is successful, it will automatically restart and enter the TSG-OS system

```
ONIE:/tmp # onie-nos-install tsg-os-rel_21.08-202108161654100800-
d47539d-9000NPBP01R01-ONIE.bin
discover: installer mode detected.
Stopping:discover... done
ONIE:Executing installer: tsg-os-rel_21.08-202108161654100800-
d47539d-9000NPBP01R01-ONIE.bin
Verifying image checksum ... OK.
Preparing image archive ...
... ..
TSG-OS v21.08-202108161654100800-d47539d (9000NPBP01R01)
Kernel 5.4.113-1.el7.elrepo.x86_64 on an x86_64

localhost login:
```

4.2.4 Firmware Upgrade

4.2.4.1 Upgrade Network Card Firmware

1. Upload the firmware upgrade file to the /tmp directory in the NPB device

```
[admin@localhost tmp]$ ls 700Series_NVMUpdatePackage_v8_00_Linux.tar.gz
700Series_NVMUpdatePackage_v8_00_Linux.tar.gz
[admin@localhost tmp]$
```

2. Unzip the file

Command: tar zxvf <file name>

Example: tar zxvf 700Series_NVMUpdatePackage_v8_00_Linux.tar.gz

```
[admin@localhost tmp]$ tar zxvf
700Series_NVMUpdatePackage_v8_00_Linux.tar.gz
```

3. Enter the 700Series/Linux_x64/ directory

Command: cd 700Series/Linux_x64/

```
[admin@localhost tmp]$ cd 700Series/Linux_x64/
[admin@localhost Linux_x64]$
```

4. Add 0755 permissions to the upgrade program

Command: sudo chmod 0777 nvupdate64e

```
[admin@localhost Linux_x64]$ sudo chmod 0777 nvupdate64e
[admin@localhost Linux_x64]$
```

5. Perform the upgrade procedure

Command: sudo ./nvupdate64e

Note: Follow the prompts to enter A and Y to upgrade.

```
[admin@localhost Linux_x64]$ sudo ./nvupdate64e
Intel(R) Ethernet NVM Update Tool
NVMUpdate version 1.35.33.4
Copyright (C) 2013 - 2020 Intel Corporation.
WARNING: To avoid damage to your device, do not stop the update or
reboot or power off the system during this update.
Inventory in progress. Please wait [***+.....]
Num Description Ver.(hex) DevId S:B Status
===
=====
=====
01) Intel(R) Ethernet Controller XL710 7.16(7.10) 1580 00:001 Update
for 40GbE backplane
available
```

```

02) Intel(R) 82599 10 Gigabit Dual      64.37(40.25   10FB 00:005 Update
not
    Port      Network      Connection
available
03) Intel(R) Ethernet Controller XL710  7.16(7.10)    1580 00:130 Update
    for      40GbE      backplane
available
04) Intel(R) I350 Gigabit Network      1.72(1.48)    1521 00:131 Update
not
    Connection
available
Options: Adapter Index List (comma-separated), [A]ll, e[X]it
Enter selection: A
Would you like to back up the NVM images? [Y]es/[N]o: Y
Update in progress. This operation may take several minutes.
[.....-]
Num Description                               Ver.(hex)  DevId S:B    Status
===  =====
=====
01) Intel(R) Ethernet Controller XL710  8.00(8.00)    1580 00:001 Update
    for      40GbE      backplane
successful
02) Intel(R) 82599 10 Gigabit Dual      64.37(40.25   10FB 00:005 Update
not
    Port      Network      Connection
available
03) Intel(R) Ethernet Controller XL710  8.00(8.00)    1580 00:130 Update
    for      40GbE      backplane
successful
04) Intel(R) I350 Gigabit Network      1.72(1.48)    1521 00:131 Update
not
    Connection
available
Reboot is required to complete the update process.
Tool execution completed with the following status: All operations
completed successfully.
Press any key to exit.
[admin@localhost Linux_x64]$

```

6. Restart the device after the upgrade is successful

Command: `sudo reboot`

```
[admin@localhost Linux_x64]$ sudo reboot
```

7. Check the network card firmware version number after restarting

Command: `ethtool -i eth_pf_smbcx`

```
[admin@localhost ~]$ ethtool -i eth_pf_smbcx
driver: i40e
version: 2.11.29
firmware-version: 8.00 0x80008b8e 0.0.0
expansion-rom-version:
bus-info: 0000:82:00.0
supports-statistics: yes
supports-test: yes
supports-eprom-access: yes
supports-register-dump: yes
supports-priv-flags: yes
[admin@localhost ~]$
```

4.3 TSG-OS Add/Modify System Configuration

4.3.1 Default Username/Password

1. Log in to the TSG-OS system

Account: admin

Password: admin

```
localhost login: admin
Password:
Last login: Tue Sep 28 06:40:49 from 192.168.32.73
[admin@localhost ~]$
```

4.3.2 Configure Management Port IP

1. Open the network card configuration file `sudo vim /etc/sysconfig/network-scripts/ifcfg-eth_vf_ctl`

Command: `sudo vim /etc/sysconfig/network-scripts/ifcfg-eth_vf_ctl`

```
[admin@localhost ~]$ sudo vim /etc/sysconfig/network-scripts/ifcfg-eth_vf_ctl
[admin@localhost ~]$
```

2. Add configuration items at the end

Example:

`IPADDR=192.168.40.85`

`NETMASK=255.255.252.0`

`GATEWAY=192.168.41.1`

```
TYPE=Ethernet
PROXY_METHOD=none
BROWSER_ONLY=no
BOOTPROTO=static
DEFROUTE=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=yes
IPV6_AUTOCONF=no
IPV6_DEFROUTE=no
IPV6_FAILURE_FATAL=no
IPV6_ADDR_GEN_MODE=stable-privacy
NAME=eth_vf_ctl
DEVICE=eth_vf_ctl
ONBOOT=yes
MTU=2000
IPADDR=192.168.40.85
NETMASK=255.255.252.0
GATEWAY=192.168.41.1
```

3. Restart the network service after saving and exiting `sudo systemctl restart network`

```
[admin@localhost ~]$ sudo systemctl restart network
```

4. After restarting the network service, you can use the management port IP to log in

4.3.3 Change Password (Optional)

4.3.3.1 Modify System Password (Optional)

Note: If you need to modify the system password, you can modify it through the following steps

1. Enter the passwd command in the system terminal to modify the admin password

Command: passwd

```
[admin@localhost ~]$ passwd
Changing password for user admin.
Changing password for admin.
(current) UNIX password:
New password:
Retype new password:
passwd: all authentication tokens updated successfully.
```

4.3.4 Modify the System Hostname (Optional)

Note: If you need to modify the Hostname, you can modify it through the following steps

1. Enter the hostnamectl command in the terminal to modify the hostname

Command: sudo hostnamectl set-hostname xxx

Example: sudo hostnamectl set-hostname tsg-9410-dev-85

```
[admin@localhost ~]$ sudo hostnamectl set-hostname tsg-9410-dev-85
```

2. Take effect after re-entering the terminal

4.3.5 Modify System Time Zone/Time

4.3.5.1 Set the System Time Zone

1. Use the timedatectl list-timezones command to view the time zone list

Command: timedatectl list-timezones

```
[admin@localhost ~]$ timedatectl list-timezones
Africa/Abidjan
Africa/Accra
Africa/Addis_Ababa
Africa/Algiers
Africa/Asmara
Africa/Bamako
Africa/Bangui
... ..
```

2. Use the `sudo timedatectl set-timezone` command to set the time zone

Command: `sudo timedatectl set-timezone time zone/location`

Example: `sudo timedatectl set-timezone UTC`

```
[admin@localhost ~]$ sudo timedatectl set-timezone UTC
[admin@localhost ~]$
```

4.3.5.2 Set the System Time

1. Set the system time through the `date` command

Command: `sudo date -s "year-month-day hour:minute:second"`

Example: `sudo date -s "2021-08-13 16:46:30"`

```
[admin@localhost ~]$ sudo date -s "2021-09-28 06:56:23"
[sudo] password for admin:
Tue Sep 28 06:56:23 UTC 2021
[admin@localhost ~]$
```

2. Synchronize to the hardware through the command `sudo hwclock --systohc`

Command: `sudo hwclock --systohc`

```
[admin@localhost ~]$ sudo hwclock --systohc
[admin@localhost ~]$
```

4.3.5.3 Set System Time NTP Synchronization (Optional)

Note: If you need to set NTP time synchronization, you can modify it through the following steps

1. If the configured NTP server is configured by domain name, you need to configure NDS first (please refer to the DNS configuration chapter)
2. vim opens the /etc/chrony.conf configuration file

Command: `sudo vim /etc/chrony.conf`

```
[admin@localhost ~]$ sudo vim /etc/chrony.conf
[admin@localhost ~]$
```

3. Add NTP Server in the file

Example:

`server 0.centos.pool.ntp.org iburst`

`server 1.centos.pool.ntp.org iburst`

`server 2.centos.pool.ntp.org iburst`

`server 3.centos.pool.ntp.org iburst`

```
# Use public servers from the pool.ntp.org project.
# Please consider joining the pool (http://www.pool.ntp.org/join.html).
server 0.centos.pool.ntp.org iburst
server 1.centos.pool.ntp.org iburst
server 2.centos.pool.ntp.org iburst
server 3.centos.pool.ntp.org iburst

# Record the rate at which the system clock gains/losses time.
driftfile /var/lib/chrony/drift

# Allow the system clock to be stepped in the first three updates
# if its offset is larger than 1 second.
makestep 1.0 3

# Enable kernel synchronization of the real-time clock (RTC).
rtcsync

# Enable hardware timestamping on all interfaces that support it.
```

```
#hwtimestamp *

# Increase the minimum number of selectable sources required to adjust
# the system clock.
#minsources 2

# Allow NTP client access from local network.
#allow 192.168.0.0/16

# Serve time even if not synchronized to a time source.
#local stratum 10

# Specify file containing keys for NTP authentication.
#keyfile /etc/chrony.keys

# Specify directory for log files.
logdir /var/log/chrony

# Select which information is logged.
#log measurements statistics tracking
```

4. After saving and exiting, systemctl restart restarts the chronyd.service

Command: sudo systemctl restart chronyd.service

```
[admin@localhost ~]$ sudo systemctl restart chronyd.service
```

5. Enter "chronyc sources" in the terminal to view the synchronization status

Command: chronyc sources

```
210 Number of sources = 4
      .- Number of sample points in measurement
set.
      /      .- Number of residual runs with same
sign.
      |      /      .- Length of measurement set
(time).
      |      |      /      .- Est. clock freq error
(ppm).
```

```

      |   |   |   /   .- Est. error in
freq.      |   |   |   /   .- Est.
offset.     |   |   |   |   On
the -.      |   |   |   |
samples. \   |   |   |   |
           |   |   |   |
|
Name/IP Address      NP  NR  Span  Frequency  Freq Skew  Offset
Std Dev
=====
=====
electrode.felixc.at    6   4   139    -8.527    215.811    +14ms
3575us
time.neu.edu.cn       6   3   136    -6.278     35.683   -1042us
476us
202.118.1.130         6   6   135    -3.132     56.176    -627us
578us
ntp7.flashdance.cx    0   0    0    +0.000   2000.000     +0ns
4000ms

```

6. Enter "chronyc tracking" to view the status of chronyc.

```

[admin@localhost ~]$ chronyc tracking
Reference ID      : CA760182 (202.118.1.130)
Stratum          : 2
Ref time (UTC)   : Mon Dec 06 06:47:02 2021
System time      : 0.000744170 seconds slow of NTP time
Last offset      : -0.001292740 seconds
RMS offset       : 0.000607600 seconds
Frequency        : 4.306 ppm fast
Residual freq    : -0.147 ppm
Skew             : 17.571 ppm
Root delay       : 0.037965715 seconds
Root dispersion  : 0.000852338 seconds
Update interval  : 65.3 seconds
Leap status      : Normal

```

4.3.6 Configure DNS (Optional)

Note: If you need to set up DNS, you can modify it through the following steps

1. Use vim to edit the `sudo vim /etc/sysconfig/network-scripts/ifcfg-eth_vf_ctl` file

Command: `sudo vim /etc/sysconfig/network-scripts/ifcfg-eth_vf_ctl`

```
[admin@localhost ~]$ sudo vim /etc/sysconfig/network-scripts/ifcfg-eth_vf_ctl
```

2. Add the DNS you want to set

Format: `DNS1=x.x.x.x`

Example: `DNS1=8.8.8.8`

```
TYPE=Ethernet
PROXY_METHOD=none
BROWSER_ONLY=no
BOOTPROTO=static
DEFROUTE=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=yes
IPV6_AUTOCONF=no
IPV6_DEFROUTE=no
IPV6_FAILURE_FATAL=no
IPV6_ADDR_GEN_MODE=stable-privacy
NAME=eth_vf_ctl
DEVICE=eth_vf_ctl
ONBOOT=yes
MTU=2000
IPADDR=192.168.40.85
NETMASK=255.255.252.0
GATEWAY=192.168.41.1
DNS1=8.8.8.8
```

3. Restart the network service after saving and exiting

Command: `sudo systemctl restart network`

```
[admin@localhost ~]$ sudo systemctl restart network
```

4.3.7 TSG-OS Configuration File

4.3.7.1 Load the provision.yml Configuration File

Use Already Configured provision.yml

1. Upload provision.yml to the /tmp directory in the NPB device

```
[admin@localhost tmp]$ ls provision.yml
provision.yml
[admin@localhost tmp]$
```

2. Move the provision.yml file to the /data/tsg-os-provision/ directory

Command: `sudo mv provision.yml /data/tsg-os-provision/`

```
[admin@localhost tmp]$ sudo mv provision.yml /data/tsg-os-provision/
[admin@localhost tmp]$ cd /data/tsg-os-provision/
[admin@localhost tsg-os-provision]$ ls
provision.yml
[admin@localhost tsg-os-provision]$
```

3. The terminal executes the `sudo provision-config-apply` command to render the system configuration

Command: `sudo provision-config-apply`

```
[admin@localhost ~]$ sudo provision-config-apply
++ id -u
+ '[' 0 '!=' 0 ']'
+ /opt/tsg/tsg-os-provision/scripts/provision.sh 1
+ enable_config_apply=1
+ config_path=/data/tsg-os-provision/provision.yml
+ config_d_path=/data/tsg-os-provision/provision.yml.d
+ snapshot_config_path=/data/tsg-os-provision/provision.yml.snapshot
```



```

+                               snapshot_config_d_path=/data/tsg-os-provision/
provision.yml.d.snapshot
+ hosts_path=/opt/tsg/tsg-os-provision/hosts
+ provision_path=/opt/tsg/tsg-os-provision/tasks/provision.yml
+ convertor_script_path=/opt/tsg/tsg-os-provision/scripts/convertor.sh
+ succ_sign_file=/data/tsg-os-provision/.provision_succeeded
+ execute_provision_convert_action
+ /opt/tsg/tsg-os-provision/scripts/convertor.sh
+ echo 'Reserved for provision config convert'
Reserved for provision config convert
+ execute_provision_action
+ ansible-playbook -i /opt/tsg/tsg-os-provision/hosts /opt/tsg/tsg-os-
provision/tasks/provision.yml -e enable_config_apply=1
... ..

```

Build a New provision.yml File Based on the Template

1. Enter the /opt/tsg/tsg-os-provision directory

Command: `cd /opt/tsg/tsg-os-provision`

2. Copy the provision file

Command: `sudo cp provision.yml.sample /data/tsg-os-provision/provision.yml`

```

[admin@localhost ~]$ cd /opt/tsg/tsg-os-provision
[admin@localhost tsg-os-provision]$ sudo cp provision.yml.sample /data/
tsg-os-provision/provision.yml
[admin@localhost tsg-os-provision]$

```

3. Modify the file according to the actual situation on site
4. The terminal executes the `sudo provision-config-apply` command to render the system configuration

Command: `sudo provision-config-apply`

```

[admin@localhost ~]$ sudo provision-config-apply
++ id -u
+ '[' 0 '!=' 0 ']'
+ /opt/tsg/tsg-os-provision/scripts/provision.sh 1

```

```

+ enable_config_apply=1
+ config_path=/data/tsg-os-provision/provision.yml
+ config_d_path=/data/tsg-os-provision/provision.yml.d
+ snapshot_config_path=/data/tsg-os-provision/provision.yml.snapshot
+               snapshot_config_d_path=/data/tsg-os-provision/
provision.yml.d.snapshot
+ hosts_path=/opt/tsg/tsg-os-provision/hosts
+ provision_path=/opt/tsg/tsg-os-provision/tasks/provision.yml
+ convertor_script_path=/opt/tsg/tsg-os-provision/scripts/convertor.sh
+ succ_sign_file=/data/tsg-os-provision/.provision_succeeded
+ execute_provision_convert_action
+ /opt/tsg/tsg-os-provision/scripts/convertor.sh
+ echo 'Reserved for provision config convert'
Reserved for provision config convert
+ execute_provision_action
+ ansible-playbook -i /opt/tsg/tsg-os-provision/hosts /opt/tsg/tsg-os-
provision/tasks/provision.yml -e enable_config_apply=1
... ..

```

4.3.7.2 Configure TSG-OS

In TSG-OS, most of the configurations are performed by edit the "provision files, which is different from CISCO-like switch/routers. As an administrator, you can create the provision file from an example when the TSG-OS boot at first time to configure the TSG-9140.

For now, the provision file is written as “YML” format, which located at “/data/tsg-os-provision/provision.yml”, and the sample file is located at “/opt/tsg-os-provision/provision.yml.sample”.

1.Login to NPB by SSH as an administrator. Username is “admin”, and default password is also “admin”.

```
# ssh admin@192.168.40.85
```

2.Copy an example provision file to /data/tsg-os/provision/provision.yml.

```
# cp /opt/tsg-os-provision/provision.yml.sample /data/tsg-os-provision/
provision.yml
```

3. Configure external service's parameters, such as CM, OLAP. Use a text editor to edit provision.yml as follows:

```
version: 1

# Settings about device tags
device:
  tags:
    - device_group: "Device-Group-Example"

session_id_generator:
  snowflake_worker_id_base: 1
  snowflake_worker_id_offset: 1

# Settings about device feature
feature:
  #This is ddos stream bypass switch
  enable_stream_bypass_under_ddos: 0 # 0 means disable, 1 means enable

#Settings about FIREWALL
#This is the firewall switch
firewall
  enable: 1      #0 means disable, 1 means enable

#Settings about PROXY
#This is the proxy switch
proxy:
  enable: 1      #0 means disable, 1 means enable

#Settings about CONNSKETCH
#This is the connsketch switch
connsketch:
  enable: 1      #0 means disable, 1 means enable

#Settings about CAPTUREPACKET
#This is the capturepacket switch
capturepacket:
  enable: 1      #0 means disable, 1 means enable

#Settings about WANNAT
#This is the wannat switch
wannat:
  enable: 1      #0 means disable, 1 means enable
```

```

natgw_address: "1.1.1.1"          #
toroad_address: "2.2.2.2"        #
toroad_port: 8888                #

#Settings about DDOSSKETCH
#This is the ddossketch switch
ddossketch:
    enable: 1      #0 means disable, 1 means enable

#Settings about APP
app:
    identify_by:
        user_defined_signature: 1 #0 means disable, 1 means enable
        builtin_app_engine: 1     #0 means disable, 1 means enable

# Settings about Central Management Service
# Central Management Service is used to dispatch user's policy to all
# ATCAs.
cm:
    policy_server:
        address: "4.4.4.4" # CM's IP address
port: 7002                # CM's Port

#Settings about OLAP services
# Kafka Brokers are used to handle nearly ALL security logs, session
# logs, and proxy logs, and HOS servers are used to storages all small
# files attached to logs.
olap:
    # Kafka Brokers IP Addresses
    kafka_broker:
address_list: ['1.1.1.1:9092','2.2.2.2:9092']
    # HOS servers
    # HOS servers are used to storages all small files attached to logs.
    hos_server:
address: "3.3.3.3"
port: 9098

# Settings about Coredump Services
# Coredump Services used to collect coredump
coredump:
    format: minidump #Coredump type ,LEAVE IT DEFAULT

```

```
collect: sentry      # ,LEAVE IT DEFAULT
sentry_url: https://xxx #The sentry url for coredump
```

4.4 Software Upgrade

4.4.1 ONIE Upgrade

4.4.1.1 Enter ONIE RESCUE Mode

Enter onie rescue via TSG-OS

1. Terminal input `sudo onie-reboot-rescue`

Command: `sudo onie-reboot-rescue`

2. After the system restarts, it will automatically enter the rescue mode of onie

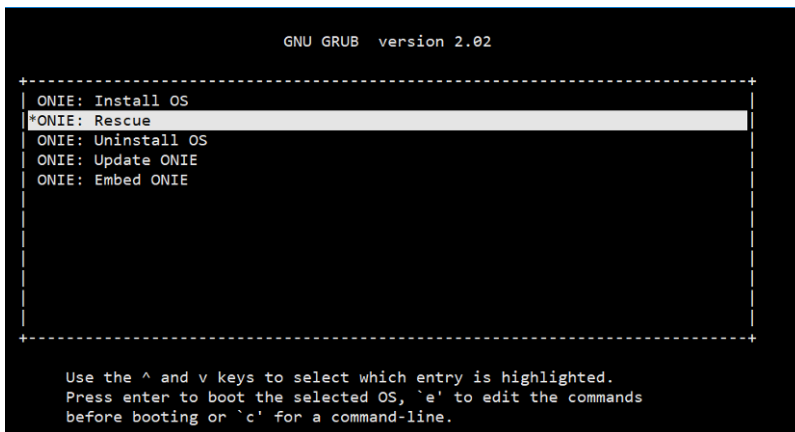
```
[admin@localhost ~]$ sudo onie-reboot-rescue
[admin@localhost ~]$ reboot
```

Restart NPB and Enter onie rescue Mode

1. Connect the NPB device through the serial cable
2. After power on, choose to enter the ONIE system



3. Select ONIE Rescue mode to enter



4.4.1.2 Upload the Upgrade Image

1. Upload the file to the /tmp directory of the 9000-SMBIO-P01R01 device

```
root@9000-SMBIO-P01R01-1:/tmp#ls onie-updater-x86_64-9000-NPB-P01R01-r0
onie-updater-x86_64-9000-NPB-P01R01-r0
root@9000-SMBIO-P01R01-1:/tmp#
```

2. Transmit to the target NPB device through the scp -P 2222 command

Corresponding device IP: 10.284.16+board number .1

Example:

The device is in slot 5, and the corresponding IP is 10.254.21.1

```
scp -P 2222 onie-updater-x86_64-9000-NPB-P01R01-r0 10.254.21.1:/tmp
```

```
root@9000-SMBIO-P01R01-1:/tmp#scp -P 2222 onie-updater-x86_64-9000-
NPB-P01R01-r0 10.254.21.1:/tmp
root@9000-SMBIO-P01R01-1:/tmp#
```

4.4.1.3 Start System Upgrade

1. Enter ONIE terminal

Method 1: Enter ONIE terminal through serial line

Baud rate: 115200

Method 2: Jump to the specified NPB device through 9000-SMBIO-P01R01 device ssh -p 2222

Corresponding device IP: 10.284.16+board number .1

Example:

The device is in slot 5, and the corresponding IP is 10.254.21.1

ssh -p 2222 10.254.21.1

```
root@9000-SMBIO-P01R01-1:ssh -p 2222 10.254.21.1
ONIE:~#
```

2. Enter the /tmp directory of the ONIE system

Command: cd /tmp

```
ONIE:~# cd /tmp/
ONIE:/tmp # ls
onie-updater-x86_64-9000-NPB-P01R01-r0 10.254.21.1:/tmp
```

3. Execute the upgrade command

Command: onie-self-update onie-updater-x86_64-9000-NPB-P01R01-r0

```
ONIE:/tmp # onie-self-update onie-updater-x86_64-9000-NPB-P01R01-r0
Verifying image checksum ... OK.
Preparing image archive ... OK.
ONIE: Version                : GN-2021.06-dev-06020402
.....
```

4. The system will automatically restart after the upgrade is successful

Note: If TSG-OS has been installed before the upgrade and the disk partition is not modified in the ONIE system of this upgrade, this ONIE upgrade will not affect the TSG-OS system, and it will automatically enter the TSG-OS system after restarting; if this is upgraded If the ONIE system has modified the disk partition, the TSG-OS system needs to be reinstalled. After the ONIE upgrade is restarted, it will enter the ONIE system.

4.4.2 TSG-OS Upgrade

1. Upload the upgrade package to the /tmp directory

```
[admin@localhost tmp]$ ls tsg-os-v21.09-rc6-58d8ffb-9000NPBP01R01-ONIE.bin
tsg-os-v21.09-rc6-58d8ffb-9000NPBP01R01-ONIE.bin
[admin@localhost tmp]$
```

2. Move the upgrade package to the /update directory and rename it to onie-installer-x86_64.bin

Command: `sudo mv tsg-os-rel_21.08-202108161654100800-d47539d-9000NPBP01R01-ONIE.bin /update/onie-installer-x86_64.bin`

```
[admin@localhost tmp]$ sudo mv tsg-os-v21.09-rc6-58d8ffb-9000NPBP01R01-ONIE.bin /update/onie-installer-x86_64.bin
[admin@localhost tmp]$
```

3. Enter `sudo onie-reboot-install` at the terminal to upgrade the image

Command: `sudo onie-reboot-install`

```
[admin@localhost tmp]$ sudo onie-reboot-install
Rebooting into ONIE (re)install mode...
```

4. View the upgrade process

Method 1: View the upgrade process through 9000-SMBIO-P01R01

- a. Log in to the 9000-SMBIO-P01R01 system 2 minutes after executing the upgrade command
- b. Jump to the specified NPB through the 9000-SMBIO-P01R01 device `ssh -p 2222`

Corresponding device IP: 10.284.16+board number .1

Example:

The device is in slot 5, and the corresponding IP is 10.254.21.1

`ssh -p 2222 10.254.21.1`


```
root@9000-SMBIO-P01R01-1:~# ssh -p 2222 10.254.21.1
ONIE:~ #
```

c. Enter the /var/log/ directory

Command: `cd /var/log/`

```
ONIE:~ # cd /var/log/
ONIE:/var/log #
```

d. `tail -f` view the installation log

Command: `tail -f onie.log`

```
ONIE:/var/log # tail -f onie.log
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64-9000-NPB-P01R01-r0 ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64-9000-NPB-P01R01-r0.bin ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64-9000-NPB-P01R01 ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64-9000-NPB-P01R01.bin ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-9000-NPB-P01R01 ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-9000-NPB-P01R01.bin ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64-none ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64-none.bin ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64 ...
Sep 28 07:36:31 onie local0.info discover: Info: Attempting file:///dev/
sda3/onie-installer-x86_64.bin ...
```

e. After the installation is successful, it will automatically restart and enter the TSG-OS system

Method 2: View the upgrade process through the serial line

- a. Connect the 9000-NPB-P01R01 device through the serial cable

Baud rate: 115200

- b. The terminal will automatically print the upgrade process

```

ONIE: Executing installer: file:///dev/sda3/onie-installer-x86_64.bin
Verifying image checksum ... OK.
Preparing image archive ... OK.
Upgrading TSG-OS, the config and data partitions will be kept in /
dev/sda.
mke2fs 1.42.13 (17-May-2015)
Discarding device blocks: done
Creating filesystem with 4194304 4k blocks and 1048576 inodes
Filesystem UUID: 44b4f05c-7a4a-4976-9884-18ba91a7c1f2
Superblock backups stored on blocks:
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632,
2654208,
    4096000

Allocating group tables: done
Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

+ cp -f distro-setup.sh /mnt/distro
+ echo Extract chroot environment ...
Extract chroot environment ...
+ tar -xf tsg-os-v21.09-rc6-58d8fffb-9000NPBP01R01-chroot.tar.bz2 -C /
mnt/distro

```

- c. After the upgrade is completed, it will automatically enter the TSG-OS system

```

TSG-OS v21.09-rc6-58d8fffb (9000NPBP01R01)
Kernel 5.4.113-1.el7.elrepo.x86_64 on an x86_64
localhost login: admin
Password:
Last login: Tue Sep 28 07:44:43 from 192.168.32.73
[admin@localhost ~]$

```

4.5 Software Reinstall

4.5.1 ONIEReinstall

The steps for reinstalling ONIE and installing ONIE are the same, please refer to the chapter Installing ONIE.

4.5.2 TSG-OS Reinstall

4.5.2.1 Save Configuration File

1. Enter the /data/ tsg-os-provision directory

Command: `cd /data/ tsg-os-provision`

2. Save the provision.yml file to the local

```
[admin@localhost ~]$ cd /data/tsg-os-provision/  
[admin@localhost tsg-os-provision]$ ls provision.yml  
provision.yml  
[admin@localhost tsg-os-provision]$
```

4.5.2.2 Delete Historical Configuration

1. Delete all files in the /data directory

Command: `sudo rm -rf /data/*`

```
[admin@localhost ~]$ sudo rm -rf /data/*  
[admin@localhost ~]$
```

4.5.2.3 Enter onie System

1. Enter `sudo onie-reboot-install` to restart and enter the onie system

Command: `sudo onie-reboot-install`

```
[admin@localhost ~]$ sudo onie-reboot-install
```

4.5.2.4 Reinstall TSG-OS

For the rest of the installation steps after entering the ONIE system, please refer to the chapter Installing TSG-OS

4.6 System Uninstall

4.6.1 Uninstall TSG-OS System

1. Log in to the TSG-OS system to operate the computing sled through the serial line

Baud rate: 115200

```
localhost login: admin
Password:
Last login: Tue Sep 28 07:44:43 from 192.168.32.73
[admin@localhost ~]$
```

2. Enter the onie-reboot-uninstall command in the terminal

Command: onie-reboot-uninstall

```
[admin@localhost ~]$onie-reboot-unstall
```

3. After entering the command, the device restarts and enters the uninstall command, waiting for the program to uninstall the TSG-OS system

Booting `ONIE: Uninstall OS`

```
ONIE: OS Uninstall Mode ...
Platform  : x86_64-9000-NPB-P01R01-r0
Version   : v1.0.0-202107-68b242f8
Build Date: 2021-08-19T10:39+00:00
pInfo: Mounting kernel filesystems... done.
Info: Mounting ONIE-BOOT on /mnt/onie-boot ...
Info: Mounting EFI System on /boot/efi ...
Info: BIOS mode: UEFI
Info: Using eth0 MAC address: e4:95:6e:2f:ea:2d
Info: Using eth1 MAC address: e4:95:6e:2f:ea:2e
Info: Using eth2 MAC address: e4:95:6e:2f:ea:2b
Info: Using eth3 MAC address: e4:95:6e:2f:ea:2c
Info: Using eth4 MAC address: e4:95:6e:2f:ea:2f
Info: Using eth5 MAC address: e4:95:6e:2f:ea:30
Info: Using eth6 MAC address: e4:95:6e:2f:ea:31
Info: Using eth7 MAC address: e4:95:6e:2f:ea:32
Info: eth0: Checking link... up.
ONIE: eth0: Using static IP config: 10.254.23.1/255.255.0.0, intf=eth0
Info: eth1: Checking link... up.
Info: eth2: Checking link... up.
Info: eth3: Checking link... down.
ONIE: eth3: link down. Skipping configuration.
Info: eth4: Checking link... down.
ONIE: eth4: link down. Skipping configuration.
Info: eth5: Checking link... down.
ONIE: eth5: link down. Skipping configuration.
Info: eth6: Checking link... down.
ONIE: eth6: link down. Skipping configuration.
Info: eth7: Checking link... up.
ONIE: Failed to configure eth3 interface
ONIE: Failed to configure eth4 interface
ONIE: Failed to configure eth5 interface
ONIE: Failed to configure eth6 interface
Starting: klogd... done.
Starting: dropbear ssh daemon... done.
Starting: telnetd... done.
discover: Uninstall mode detected. Running uninstaller.
Erasing internal mass storage device: /dev/sda3 (16384MB)
  Percent complete: 100%
Erase complete.
Deleting partition 3 from /dev/sda
Erasing internal mass storage device: /dev/sda4 (16384MB)
  Percent complete: 100%
Erase complete.
Deleting partition 4 from /dev/sda
Erasing internal mass storage device: /dev/sda5 (455233MB)
  Percent complete: 14%
```

4. After the uninstallation is successful, it will reboot into the onie system

```
** Installer Mode Enabled **  
ONIE : / #
```

5 NeZha Monitoring System

- Date Center Module
 - Create Date center, Cabinet, Agent
- Template Module
 - Import Template
- Alert Rule Module
 - Import the Alert Rule Template
- SNMP Module
 - Import MIB File
 - Add Credential
- Asset Module
 - Create an Asset Label
 - Import Asset Model
 - Create Asset
 - Create Smb Asset
 - Create Npb Asset
- Monitor Module
 - Create Project
 - Import Module
 - Create Endpoint
 - Create Smbio Endponit in Batches
 - create Smbcx Endponit in Batches
 - Create NPB Endponit in Batches

5.1 Date Center Module

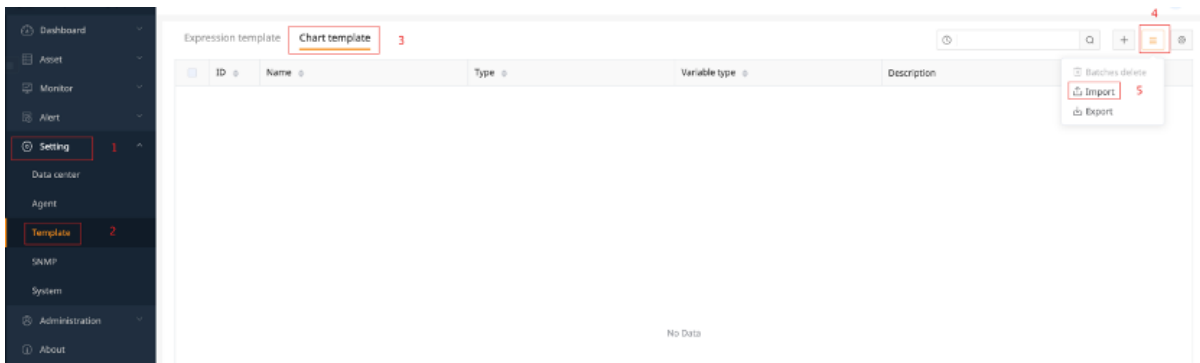
5.1.1 Create Date center, Cabinet, Agent

See NEZHA ONE-STOP Monitoring System User's Manual

5.2 Template Module

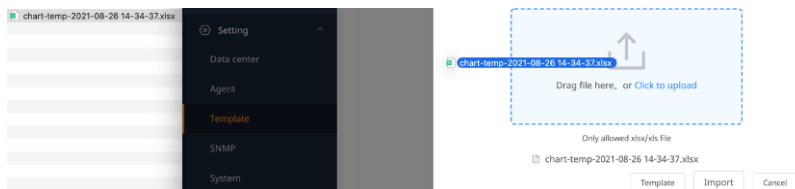
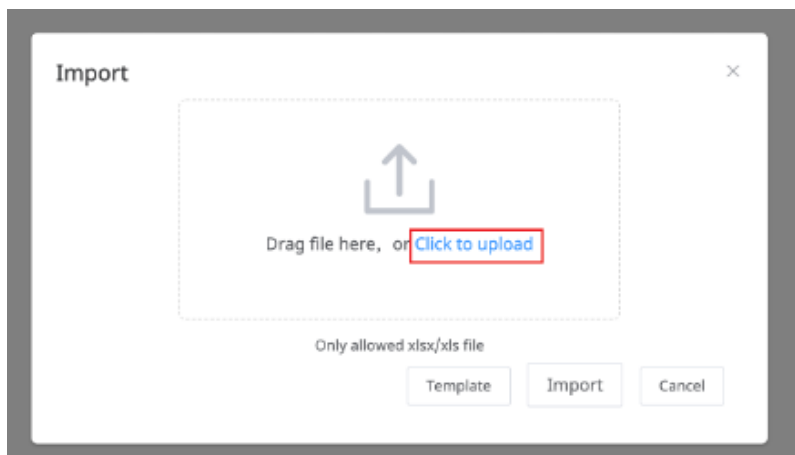
5.2.1 Import Template

1. Click Setting --> Template --> Chart template --> "" → Import

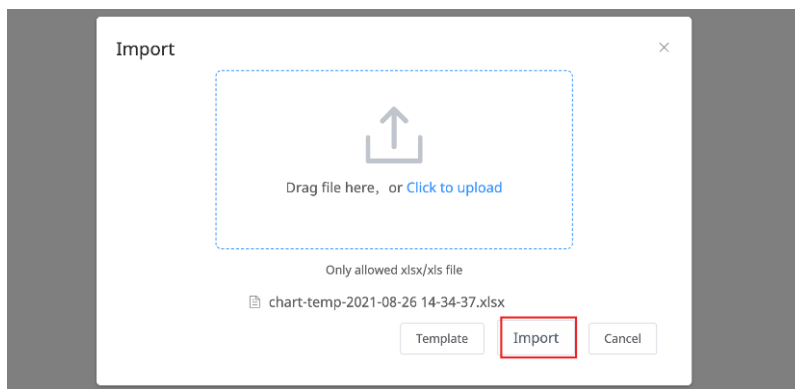


2. Upload and import the template file

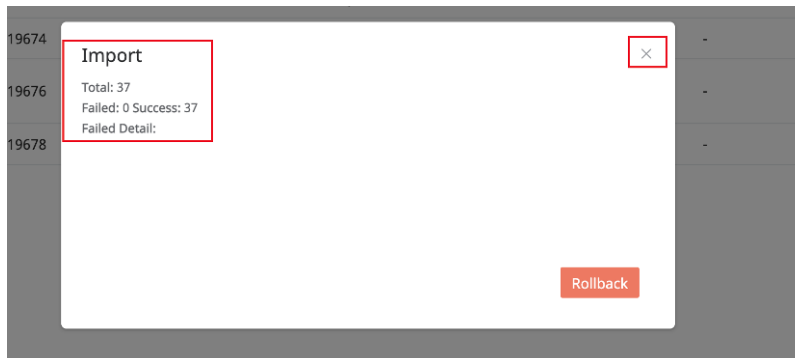
- a. Click Click to upload to import the file, or directly drag the file into the configuration box



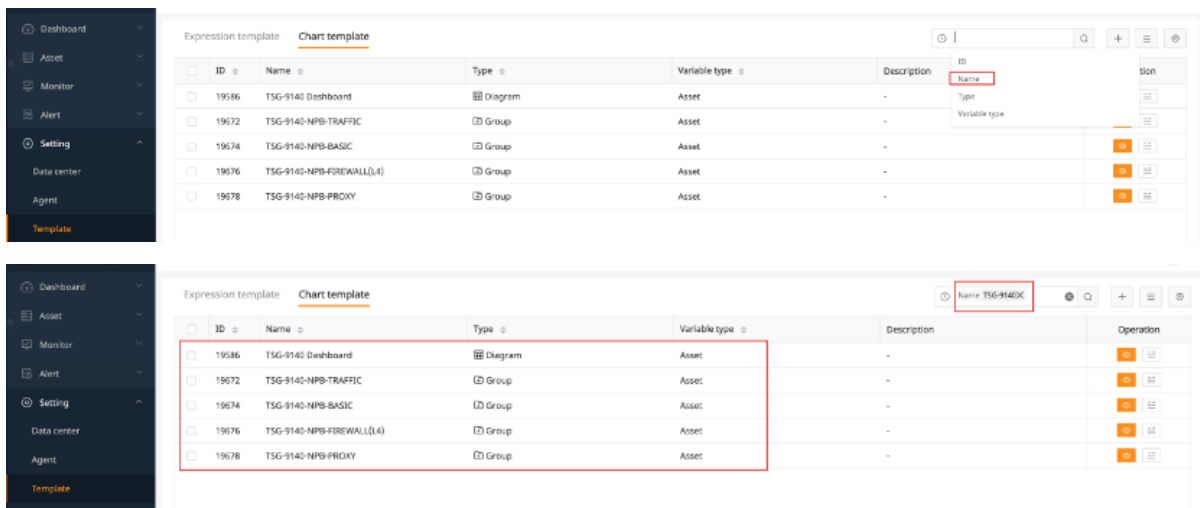
- b. Click Import to import the template



c. After successfully importing the template, click "x" to close this interface



3. Click Name in the search bar and enter TSG-9140 to verify whether the template has been imported successfully

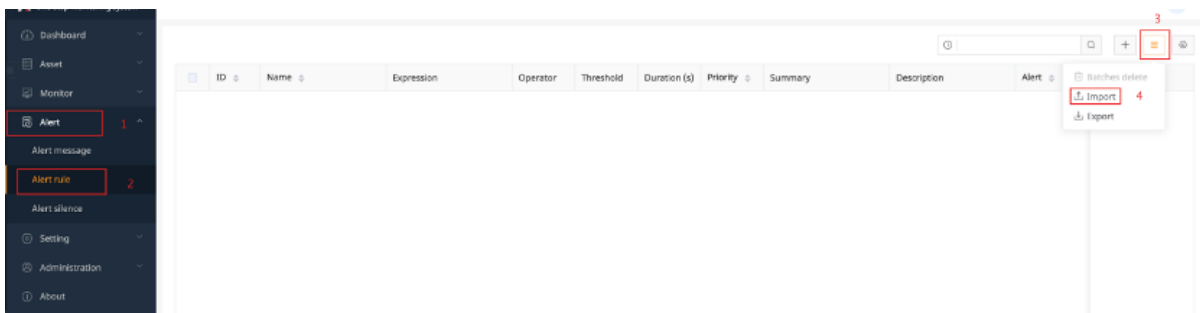


Note: TSG-9140 Dashboard template comes with the NeZha system, no need to import manually

5.3 Alert Rule Module

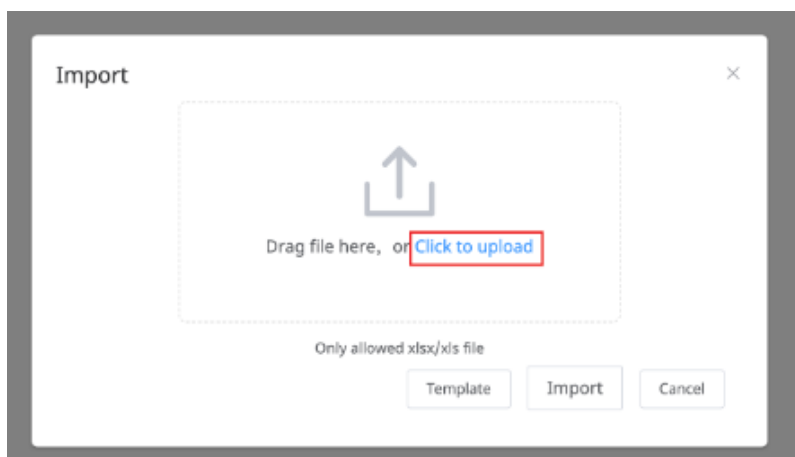
5.3.1 Import the Alert Rule Template

1. Click Alert --> Alert rule --> "  " --> Import

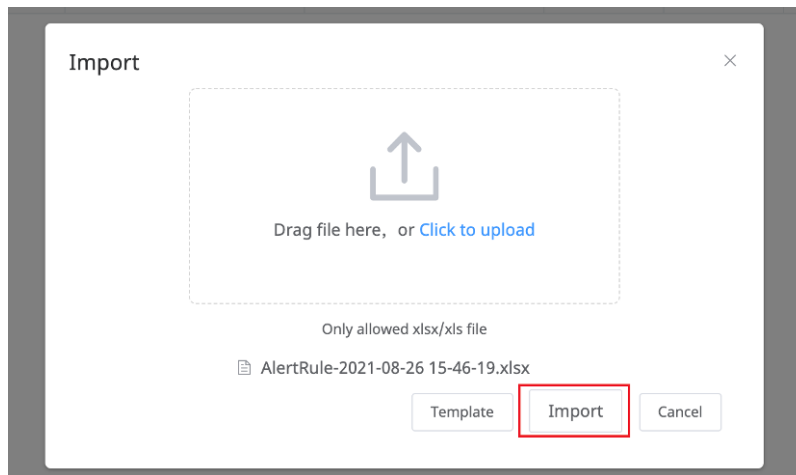


2. Upload and import the template file

- a. Click Click to upload to import the file, or directly drag the file into the configuration box



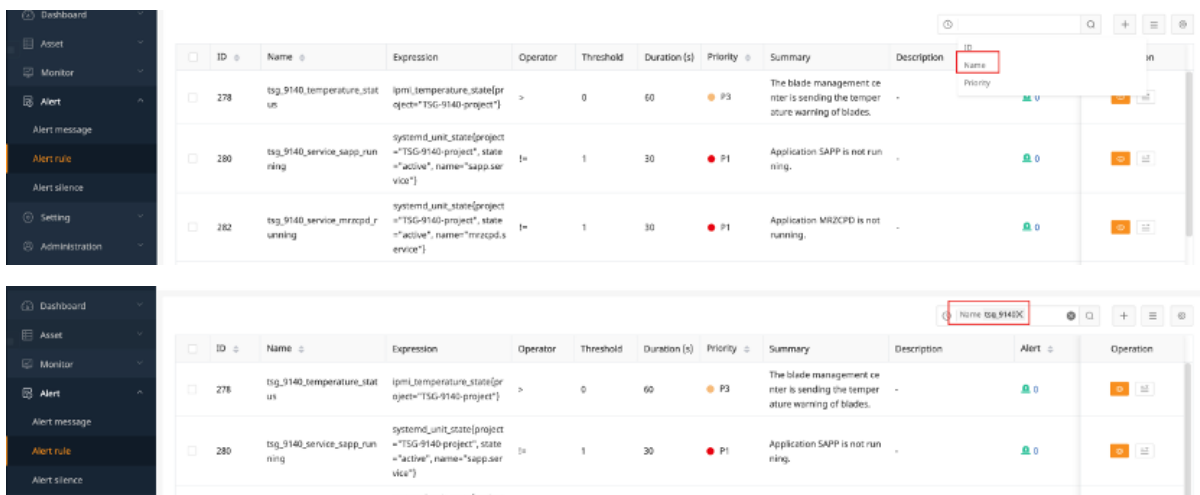
- b. Click Import to import the template



c. After successfully importing the template, click "x" to close this interface



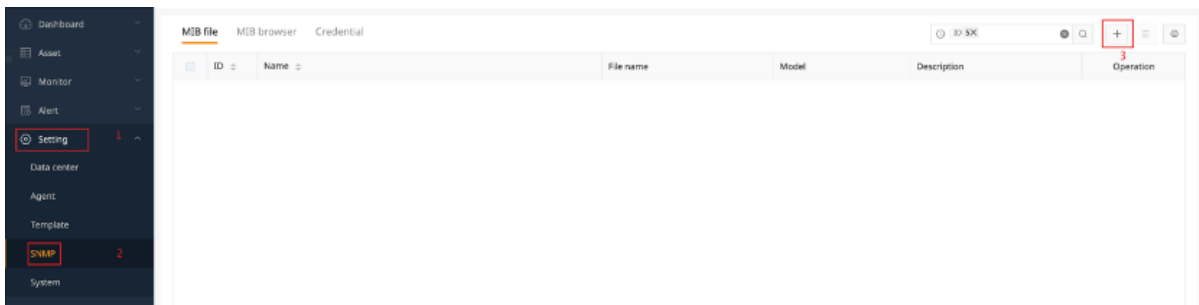
3. Click Name in the search bar and enter TSG-9140 to verify whether the template has been imported successfully



5.4 SNMP Module

5.4.1 Import MIB File

1. Click Setting--> SNMP --> MIB file --> "+"



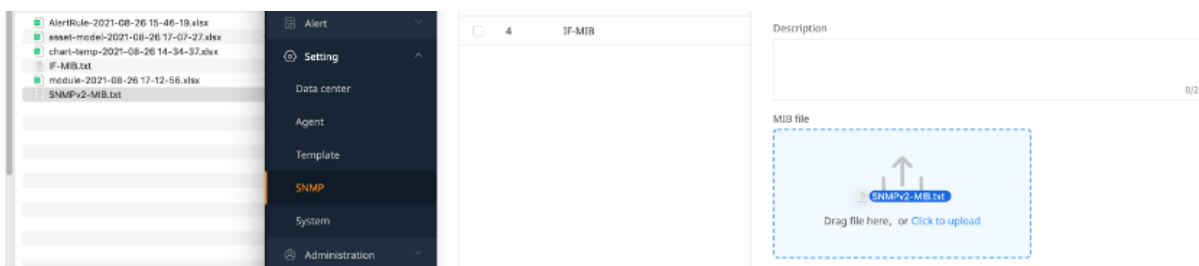
2. Fill in the configuration parameters and save the configuration

Model: TSG-9140/NPB

Upload MIB file



3. Click "+" again to add another MIB file

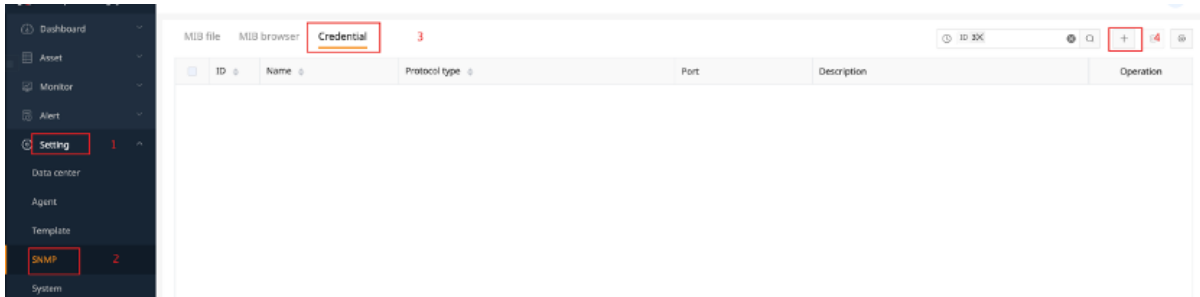


4. A total of 2 MIB items

MIB file						
MIB browser						
Credential						
	ID	Name	File name	Model	Description	Operation
☐	2	IF-MIB	IF-MIB.txt	SMB	-	
☐	4	SNMPv2-MIB	SNMPv2-MIB.txt	-	-	

5.4.2 Add Credential

1. Click Setting--> SNMP --> MIB file --> "+"



2. Fill in the configuration parameters and save the configuration

Name: TSG-9140-SNMP-PUBLIC

Protocol type: V2

Port: 161

Edit credential

*

Name

TSG-9140-SNMP-PUBLIC

20/64

Description

0/256

*

Protocol type

V2

*

Port

161

Read community

public

6/64

Write community

Cancel

Save

3. A total of 1 Credential item

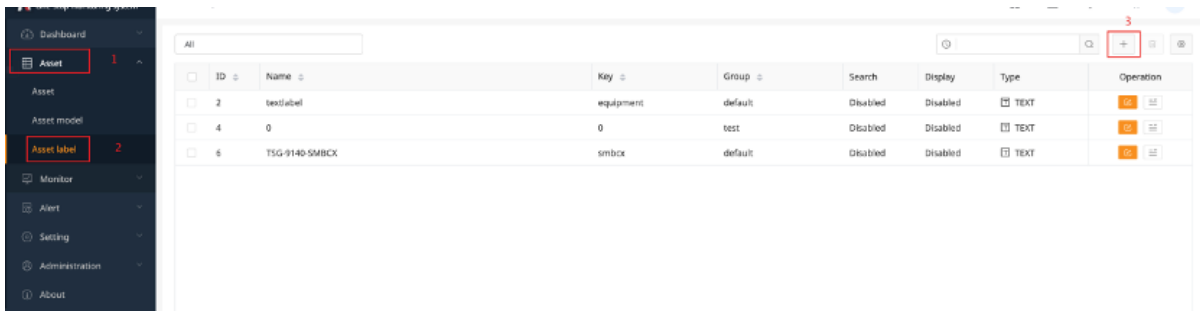
MIB file MIB browser Credential

☐	ID	Name	Protocol type	Port	Description	Operation
☐	2	TSG-9140-SNMP-PUBLIC	V2	161	-	

5.5 Asset Module

5.5.1 Create an Asset Label

- 1. Click Asset--> Asset label--> "+"



2. Fill in the configuration

Name: SMBCX-IP

Key: smbcx_mngnt_ip

Group: default

Type: TEXT

Edit label

Group: default

* Name: SMBCX-IP (8/64)

* Key: smbcx_mngnt_ip (13/128)

* Group: default

Search: ☐

Display: ☐

* Type: TEXT

Description: (0/255)

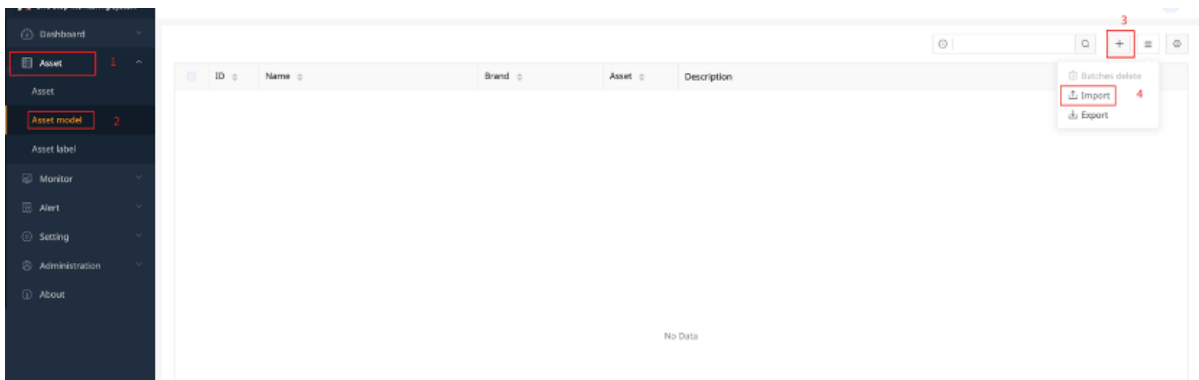
20/page

3. Click Save to save the configuration

ID	Name	Key	Group	Search	Display	Type	Operation
2	testlabel	equipment	default	Disabled	Disabled	TEXT	[Icon]
4	0	0	test	Disabled	Disabled	TEXT	[Icon]
6	SMBCK-IP	smbck_mgmt_ip	default	Disabled	Disabled	TEXT	[Icon]

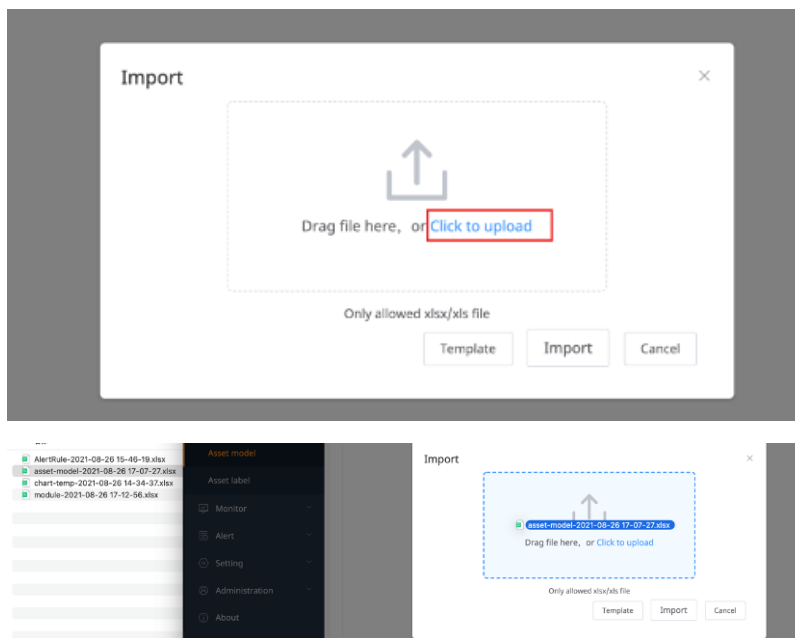
5.5.2 Import Asset Model

1. Click Asset--> Asset label--> " " --> Import

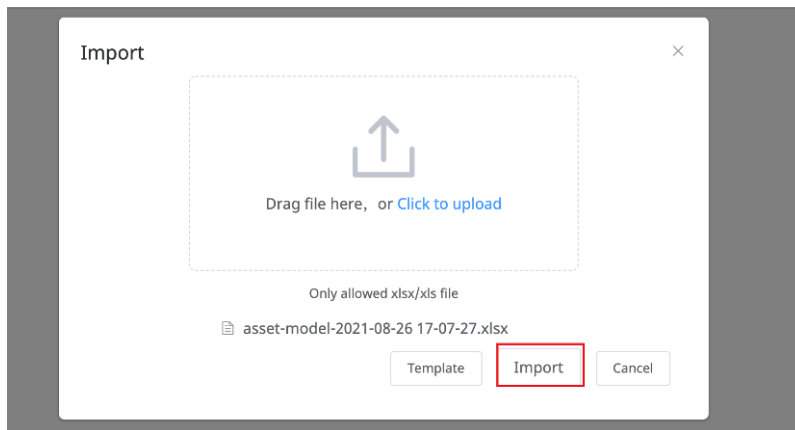


2. Upload and import the template file

a. Click Click to upload to import the file, or directly drag the file into the configuration box



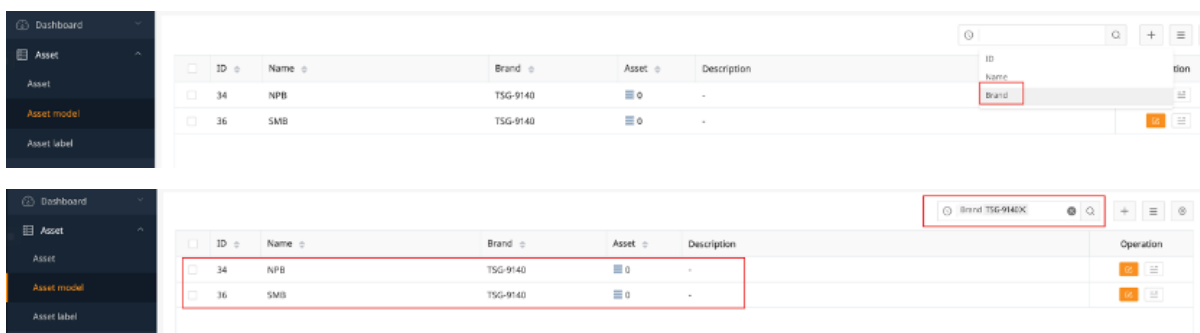
b. Click Import to import the template



c. After successfully importing the template, click "x" to close this interface



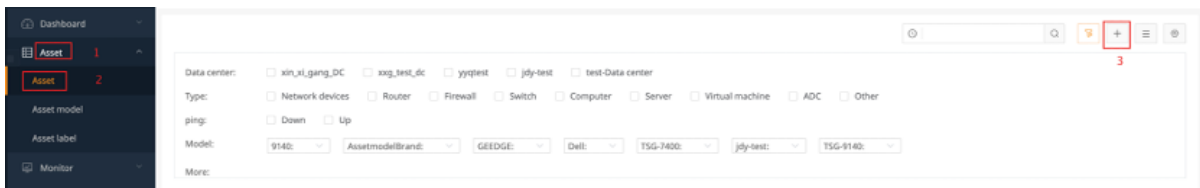
3. Click Brand in the search bar and select TSG-9140 to verify whether the template has been imported successfully



5.5.3 Create Asset

5.5.3.1 Create Smb Asset

1. Click Asset--> Asset → "+"



2. Fill in the configuration parameters and save the configuration

Name: Configure according to the actual situation, this example uses IP (SMBIO switch board IP)

Type: Switch

State: In use

Manage IP: xxx.xxx.xxx.xxx (configured according to the actual situation on site)

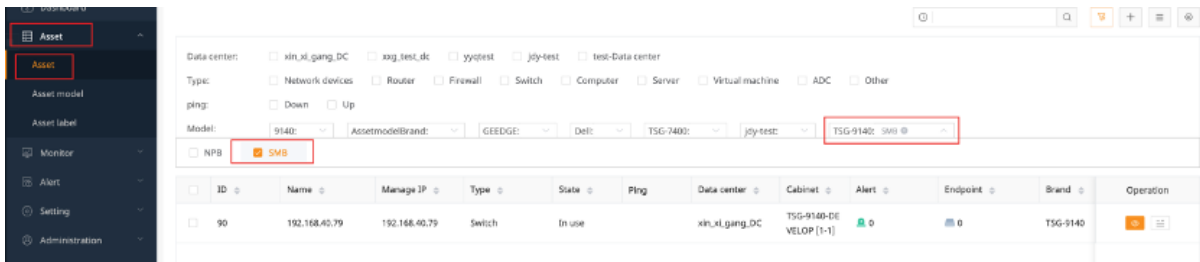
SN: xxxx (configured according to the actual situation on site)

Brand&Model: TSG-9140/SMB

Location: xxx/xxx/1-1 (configured according to the actual situation on site)

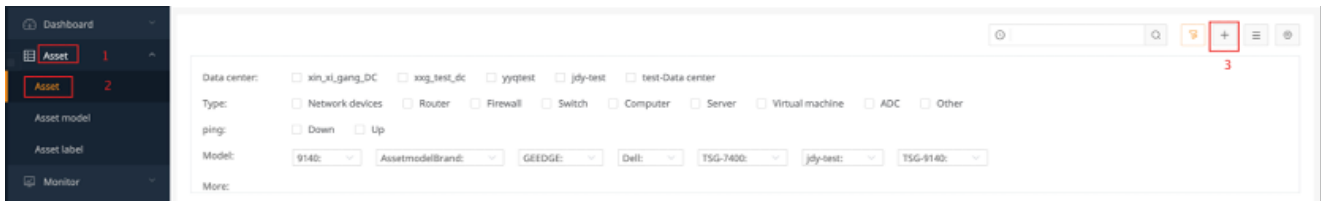
Label: default/SMBCX-IP xxx.xxx.xxx.xxx (IP of SMBCX)

3. Click Asset --> Asset --> TSG-9140 --> SMB to view Asset



5.5.3.2 Create Npb Asset

1. Click Asset--> Asset --> "+"



600

2. Fill in the configuration parameters and save the configuration

Name: Configure according to the actual situation, this example uses the IP of the computing board

Type: Firewall

State: In use

Manage IP: xxx.xxx.xxx.xxx (configured according to the actual situation on site)

SN: xxxx (configured according to the actual situation on site)

Brand&Model: TSG-9140/NPB

TALON: enable

Token: xxxx (configured according to the actual situation on site)

Port: 10092

New asset

Name

192.168.40.85

13/128

Type

Firewall

Parent asset

192.168.40.79

State

In use

Manage IP

192.168.40.85

13/64

SN

4085

4/128

Number

0/128

Brand & Model

TSG-9140 / NPB

Location

xin_xi_gang_DC / TSG-9140-DEVELOP / 1-1

Purchase date

Cancel

Save

Edit asset

TELNET

User name

0/64

Password

Username prompt

0/64

Password prompt

Port

23

SNMP

SNMP credential

Select

TALON

Token

088723c3

Port

10092

Cancel

Save

3. Click Asset --> Asset --> TSG-9140 --> NPB to view Asset

Assets

Asset

Asset model

Asset label

Monitor

Alert

Setting

Administration

About

Data center:

☐ xin_xi_gang_DC
 ☐ xsg_test_dc
 ☐ yyqtest
 ☐ jdy-test
 ☐ test-Data center

Type:

☐ Network devices
 ☐ Router
 ☐ Firewall
 ☐ Switch
 ☐ Computer
 ☐ Server
 ☐ Virtual machine
 ☐ ADC
 ☐ Other

ping:

☐ Down
 ☐ Up

Model:

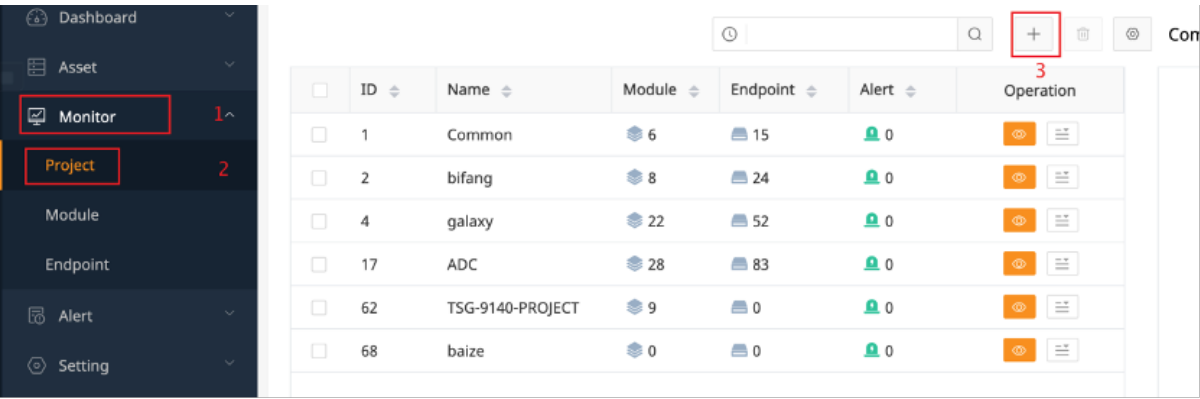
☒ NPB
 ☐ SMB

ID	Name	Manage IP	Type	State	Ping	Data center	Cabinet	Alert	Endpoint	Brand	Operation
98	192.168.40.85	192.168.40.85	Firewall	In use		xin_xi_gang_DC	TSG-9140-DEVELOP [1-1]		0	TSG-9140	

5.6 Monitor Module

5.6.1 Create Project

1. Click Monitor --> Project --> "+"



2. Fill in the configuration parameters and save the configuration

Name : TSG-9140

Edit project

Name

TSG-91408/64

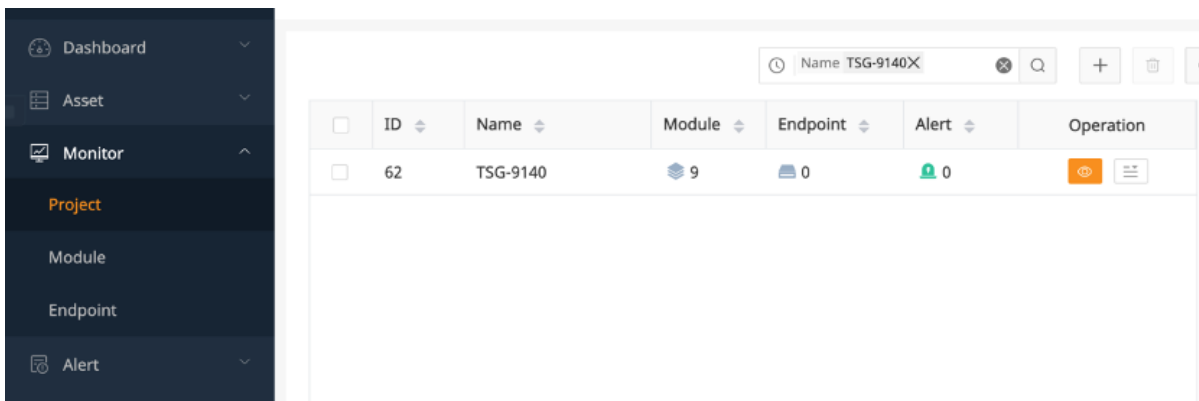
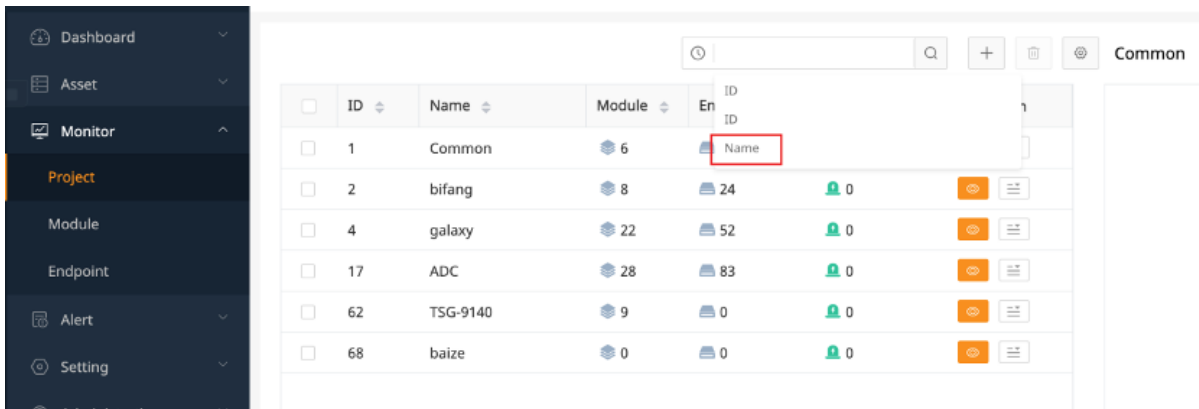
Description

0/256

Cancel

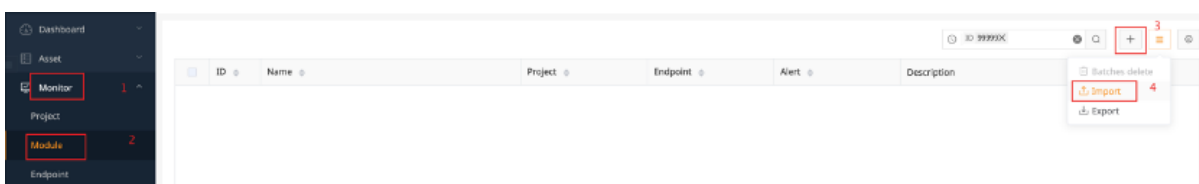
Save

3. In the search bar, click Name and enter TSG-9140 to verify whether the project is created successfully



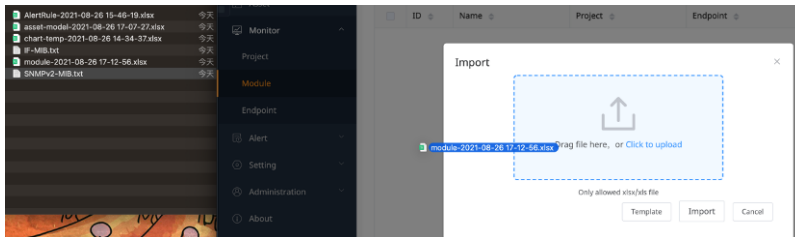
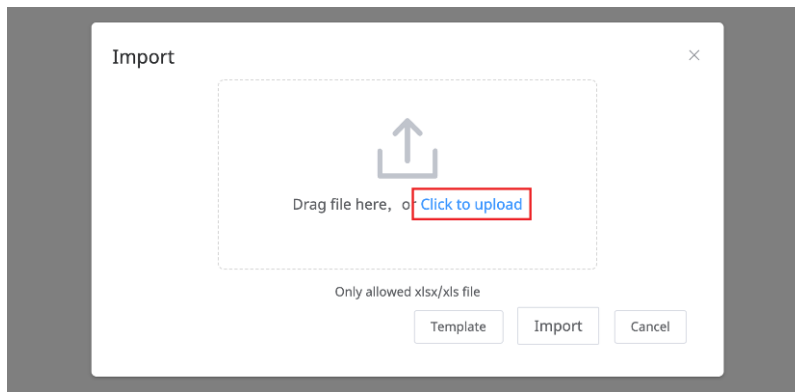
5.6.2 Import Module

1. Click Monitor --> Module --> " " --> Import

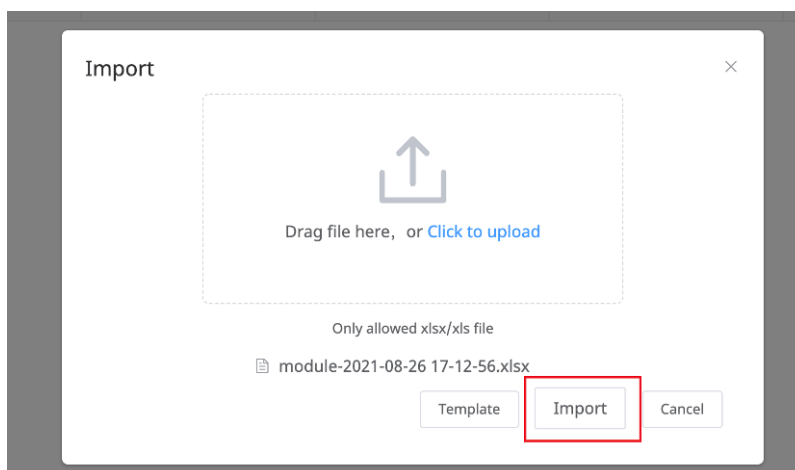


2. Upload and import the template file

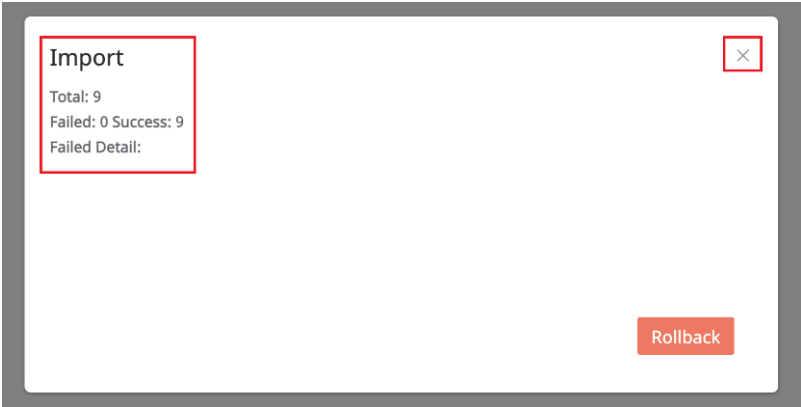
a. Click Click to upload to import the file, or directly drag the file into the configuration box



b. Click Import to import the template



c. After successfully importing the template, click "x" to close this interface



3. Click Project Name in the search bar and enter TSG-9140 to verify whether the template has been imported successfully

The top screenshot shows a table of imported modules for project TSG-9140. The table has columns: ID, Name, Project, Endpoint, and a search bar. The search bar has 'Project name' entered. The table lists modules 330 through 340, all with Project TSG-9140 and Endpoint 0.

ID	Name	Project	Endpoint
330	NODE-EXPORTER	TSG-9140	0
332	SYSTEMD-EXPORTER	TSG-9140	0
334	CERTSTORE	TSG-9140	0
336	TFE	TSG-9140	0
338	SAPP	TSG-9140	0
340	MRAPM-DEVICE	TSG-9140	0

The bottom screenshot shows a table of endpoints for project TSG-9140X. The table has columns: ID, Name, Project, Endpoint, Alert, Description, and Operation. The search bar has 'project name TSG-9140X' entered. The table lists endpoints 330 through 350, all with Project TSG-9140X and Alert 0.

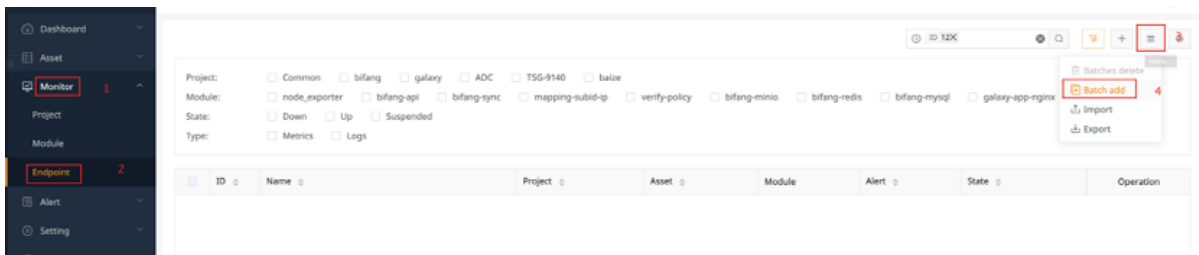
ID	Name	Project	Endpoint	Alert	Description	Operation
330	NODE-EXPORTER	TSG-9140X	2	0	-	-
332	SYSTEMD-EXPORTER	TSG-9140X	2	0	-	-
334	CERTSTORE	TSG-9140X	2	0	-	-
336	TFE	TSG-9140X	2	0	-	-
338	SAPP	TSG-9140X	2	0	-	-
340	MRAPM-DEVICE	TSG-9140X	2	0	-	-
342	MRAPM-STREAM	TSG-9140X	2	0	-	-
344	IF-SMBIO	TSG-9140X	1	0	-	-
346	IF-SMBIOX	TSG-9140X	1	0	-	-
350	SYSLOG	TSG-9140X	2	0	-	-

5.6.3 Create Endpoint

Note: The premise of Endpoint creation is that the corresponding Asset has been created

5.6.3.1 Create Smbio Endponit in Batches

1. Click Monitor --> Endpoint --> " " --> Batch add



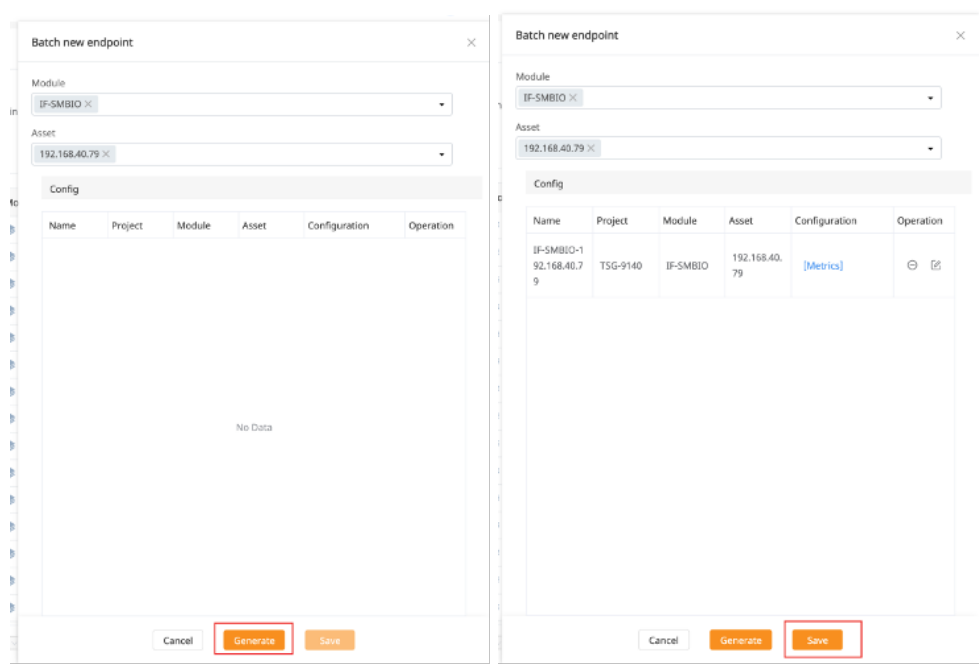
2. Fill in the configuration parameters

Module: IF-SMBIO

Asset: xxxx (SMBIO Asset previously configured, you can choose more than one)

The 'Batch new endpoint' dialog box is shown. It has a title bar with a close button. Below the title bar, there are two input fields: 'Module' and 'Asset'. The 'Module' field is set to 'IF-SMBIO' and the 'Asset' field is set to '192.168.40.79'. Both fields are highlighted with red boxes. Below these fields is a 'Config' section. It contains a table with the following columns: Name, Project, Module, Asset, Configuration, and Operation. The table is currently empty, displaying 'No Data'. At the bottom of the dialog, there are three buttons: 'Cancel', 'Generate', and 'Save'.

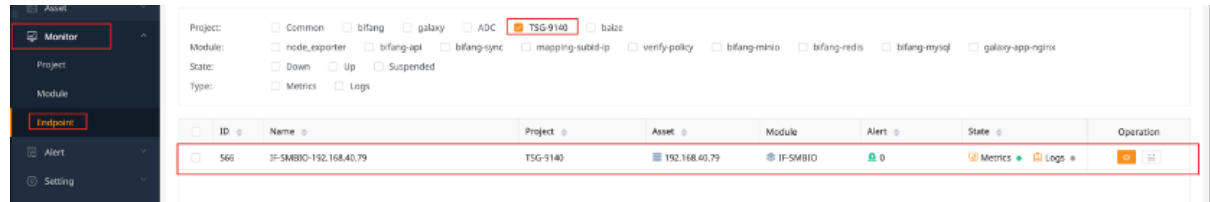
3. Click Generate first and then click Save to save



4. Click "x" to close the window

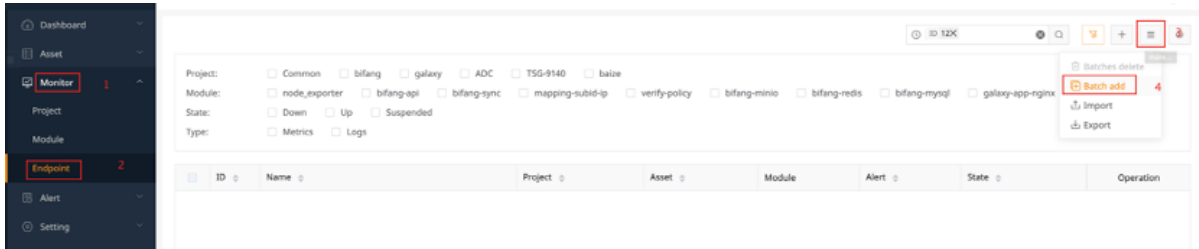


5. Click Monitor --> Endpoint --> TSG-9140 to view the added Endpoint



5.6.3.2 create Smbcx Endponit in Batches

1. Click Monitor --> Endpoint --> "  " --> Batch add



2. Fill in the configuration parameters

Module: IF-SMBCX

Asset: xxxx (SMBIO Asset previously configured, you can choose more than one)

Batch new endpoint

Module

IF-SMBCX ×

Asset

192.168.40.79 ×

Config

Name	Project	Module	Asset	Configuration	Operation
No Data					

Cancel

Generate

Save

3. Click Generate first and then click Save to save

Batch new endpoint

Module: IF-SMBCK X

Asset: 192.168.40.79 X

Name	Project	Module	Asset	Configuration	Operation
No Data					

Buttons: Cancel, Generate, Save

Batch new endpoint

Module: IF-SMBCK X

Asset: 192.168.40.79 X

Name	Project	Module	Asset	Configuration	Operation
IF-SMBCK-192.168.40.79	TSG-9140	IF-SMBCK	192.168.40.79	[Metrics]	⊙ 📄

Buttons: Cancel, Generate, Save

4. Click "x" to close the window

Batch new endpoint

Total: 1
Failed: 0 Success: 1
Failed Detail:

Rollback

5. Click Monitor --> Endpoint --> TSG-9140 to view the added Endpoint

Project: ☐ Common ☐ bifang ☐ galaxy ☐ ADC ☒ TSG-9140 ☐ baize

Module: ☐ node_exporter ☐ bifang-api ☐ bifang-sync ☐ mapping-subid-ip ☐ verify-policy ☐ bifang-minio ☐ bifang-redis ☐ bifang-mysql ☐ galaxy-app-nginx

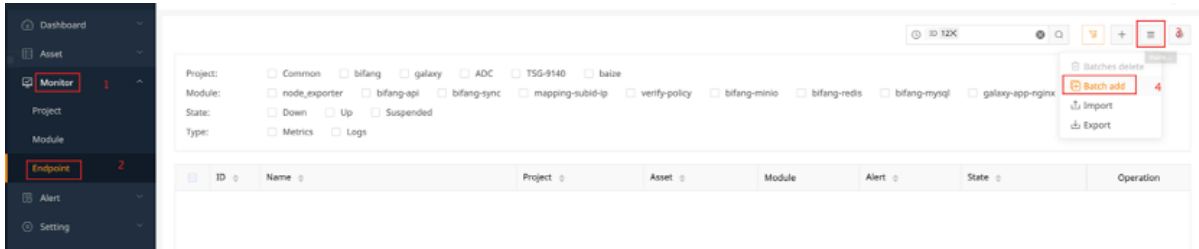
State: ☐ Down ☐ Up ☐ Suspended

Type: ☐ Metrics ☐ Logs

ID	Name	Project	Asset	Module	Alert	State	Operation
566	IF-SMBIO-192.168.40.79	TSG-9140	192.168.40.79	IF-SMBIO	0	Metrics 🟢 Logs ➡	⊙ 📄
568	IF-SMBCK-192.168.40.79	TSG-9140	192.168.40.79	IF-SMBCK	0	Metrics 🟡 Logs ➡	⊙ 📄

5.6.3.3 Create NPB Endponit in Batches

1. Click Monitor --> Endpoint --> "☰" --> Batch add



2. Fill in the configuration parameters

Module: NODE-EXPORTER SYSTEMD-EXPORTER CERTSTORE TFE SAP

MRAPM-DEVICE MRAPM-STREAM SYSLOG

Asset: xxxx (SMBIO Asset previously configured, you can choose more than one)

Batch new endpoint

Module

NODE-EXPORTER ×

SYSTEMD-EXPORTER ×

CERTSTORE ×

TFE ×

SAPP ×

MRAPM-DEVICE ×

MRAPM-STREAM ×

SYSLOG ×

Asset

192.168.40.81 ×

192.168.40.85 ×

Config

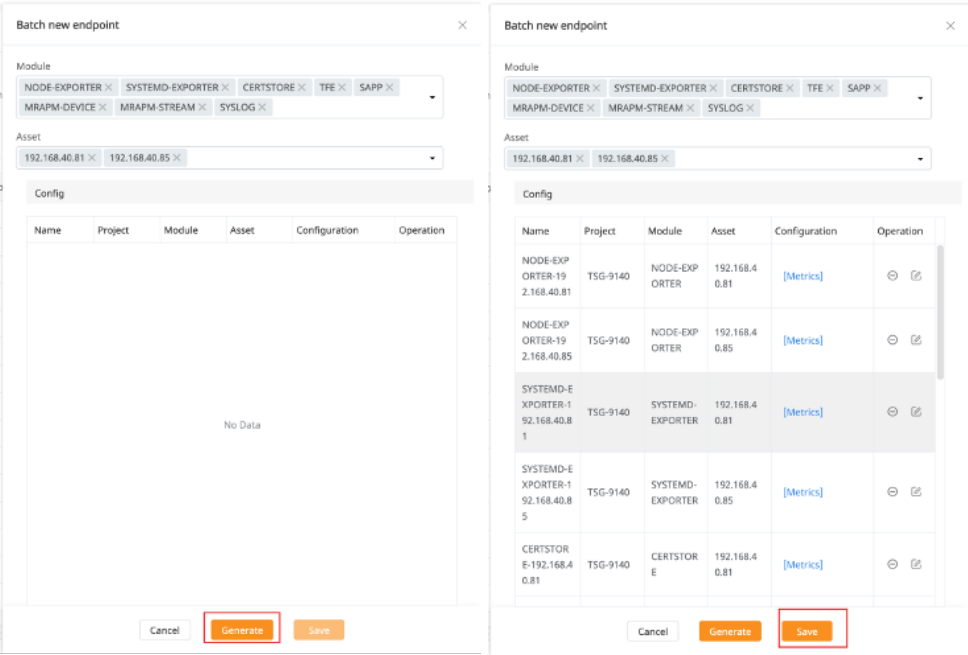
Name	Project	Module	Asset	Configuration	Operation
No Data					

Cancel

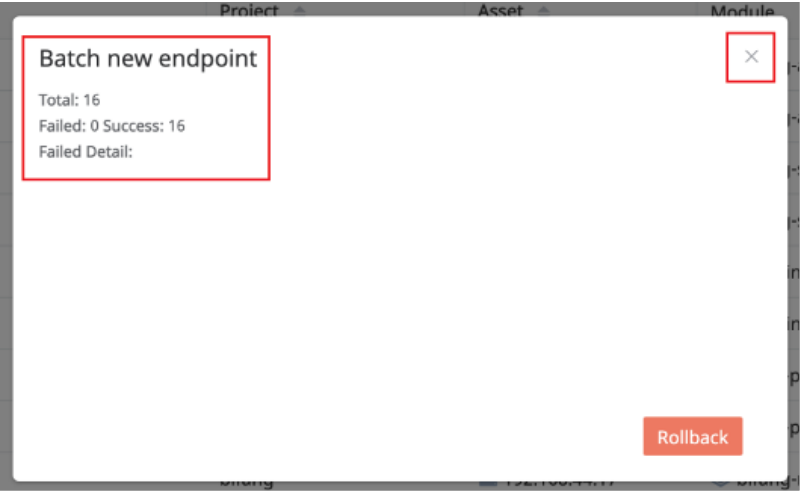
Generate

Save

3. Click Generate first and then click Save to save



4. Click "x" to close the window



5. Click Monitor --> Endpoint --> TSG-9140 to view the added Endpoint

Dashboard

Asset

Monitor

Project

Module

Endpoint

Alert

Setting

Administration

About

Project: ☐ Common ☐ bifang ☐ galaxy ☐ ADC ☒ TSG-9140 ☐ baize

Module: ☐ node_exporter ☐ bifang-api ☐ bifang-sync ☐ mapping-subid-ip ☐ verify-policy ☐ bifang-minio ☐ bifang-redis ☐ bifang-mysql ☐ galaxy-app-nginx

State: ☐ Down ☐ Up ☐ Suspended

Type: ☐ Metrics ☐ Logs

ID	Name	Project	Asset	Module	Alert	State	Operation
565	IF-SMBIO-192.168.40.79	TSG-9140	192.168.40.79	IF-SMBIO	0	Metrics Logs	
568	IF-SMBIOX-192.168.40.79	TSG-9140	192.168.40.79	IF-SMBIOX	0	Metrics Logs	
570	NODE-EXPORTER-192.168.40.81	TSG-9140	192.168.40.81	NODE-EXPORTER	0	Metrics Logs	
572	NODE-EXPORTER-192.168.40.85	TSG-9140	192.168.40.85	NODE-EXPORTER	0	Metrics Logs	
574	SYSTEMD-EXPORTER-192.168.40.81	TSG-9140	192.168.40.81	SYSTEMD-EXPORTER	0	Metrics Logs	
576	SYSTEMD-EXPORTER-192.168.40.85	TSG-9140	192.168.40.85	SYSTEMD-EXPORTER	0	Metrics Logs	
578	CERTSTORE-192.168.40.81	TSG-9140	192.168.40.81	CERTSTORE	0	Metrics Logs	
580	CERTSTORE-192.168.40.85	TSG-9140	192.168.40.85	CERTSTORE	0	Metrics Logs	
582	TFE-192.168.40.81	TSG-9140	192.168.40.81	TFE	0	Metrics Logs	
584	TFE-192.168.40.85	TSG-9140	192.168.40.85	TFE	0	Metrics Logs	
586	SAPP-192.168.40.81	TSG-9140	192.168.40.81	SAPP	0	Metrics Logs	
588	SAPP-192.168.40.85	TSG-9140	192.168.40.85	SAPP	0	Metrics Logs	
590	MRAPM-DEVICE-192.168.40.81	TSG-9140	192.168.40.81	MRAPM-DEVICE	0	Metrics Logs	
592	MRAPM-DEVICE-192.168.40.85	TSG-9140	192.168.40.85	MRAPM-DEVICE	0	Metrics Logs	

6 FAQ

- How to Troubleshoot and Restore the Functional End
 - View Optical Line Protection(OLP) status
 - Optical Line Protection bypass Status Investigation and Recovery
 - Check the Status of the Network Port
 - Set the Status of the Network Port
 - Clear Link Group Shock
 - View OLP Configuration
 - BFD Keep-alive Status is Abnormal
 - View the BFD Keep-alive Status of SMBIO and NPB
 - View BFD Keep-alive Configuration
 - View/Set Port Status
- Verify the installation
- TSG-OS Temporarily enable/disable a Certain Service
- TSG-OS Prompts No Such Partition Error when Starting
- TSG-OS Executes the onie-reboot-xxx Command to No Effect
- Error Loading Configuration File of SMBIO

6.1 How to Troubleshoot and Restore the Functional End

6.1.1 View Optical Line Protection(OLP) status

If you find that the functional end is not effective, you should first log in to the SMBIO device and enter the kCli network management program to check whether the optical line protection brief slot status of the corresponding link group is normal.

1. Login to SMBIO device using SSH or serial port

Username: root

Password: eb-20170122

```
[admin@localhost ~]$ ssh root@192.168.40.79
root@192.168.40.79's password:
Last login: Tue Sep 28 16:09:58 2021 from 192.168.40.85
root@9000-SMBIO-P01R01-1:~#
```

2. Enter kCli on the command line to enter the network management program

Username: admin

Default password: 111111

```
root@9000-SMBIO-P01R01-1:~# kCli
*****
* Copyright (c) Gdnt Technology Co.,Ltd.                *
* All rights Reserved.                                  *
*****
Login: admin
Password:
admin@9000-SMBIO-P01R01-1>
```

3. Enter configure terminal at the terminal to enter the configuration layer

Command: configure terminal

```
admin@9000-SMBIO-P01R01-1> configure terminal
admin@9000-SMBIO-P01R01-1(config)#
```

4. Enter show linkpg brief slot 1 to view the status of the optical line protection brief slot corresponding to the link group

Command: show linkpg brief slot 1

```
admin@9000-SMBIO-P01R01-1(config)# show linkpg brief slot 1
```

Slot	Id	Uplinkport	Downlinkport	Router	Shock	Rate(%)	State
1	1	1/5/0	1/5/1	same	20	70	normal
1/1/3		pass					
1	2	1/5/2	1/5/3	same	5	70	normal
--	--						
1	3	1/5/4	1/5/5	same	5	70	normal
--	--						
1	4	1/5/6	1/5/7	same	5	70	normal
--	--						
1	5	1/5/8	1/5/9	same	5	70	
abnormal	--	--					
1	6	1/5/10	1/5/11	same	5	70	

abnormal	--	--					
1	7	1/5/12	1/5/13	same	5	70	
abnormal	--	--					
1	8	1/5/14	1/5/15	same	5	70	
abnormal	--	--					
1	9	1/5/16	1/5/17	same	5	70	
abnormal	--	--					
1	10	1/5/18	1/5/19	same	5	70	
abnormal	--	--					
1	11	1/5/20	1/5/21	same	5	70	
abnormal	--	--					
1	12	1/5/22	1/5/23	same	5	70	
abnormal	--	--					
1	13	1/5/24	1/5/25	same	5	70	
abnormal	--	--					
1	14	1/5/26	1/5/27	same	5	70	
abnormal	--	--					
1	15	1/5/28	1/5/29	same	5	70	
abnormal	--	--					
1	16	1/5/30	1/5/31	same	5	70	
abnormal	--	--					
1	21	1/1/0.2	1/1/0.3	same	5	70	
abnormal	--	--					
1	22	1/1/1.0	1/1/1.1	same	5	70	
abnormal	--	--					
1	23	1/1/1.2	1/1/1.3	same	5	70	
abnormal	--	--					
1	24	1/1/2.0	1/1/2.1	same	5	70	
abnormal	--	--					
1	25	1/1/2.2	1/1/2.3	same	5	70	
abnormal	--	--					
1	26	1/1/3.0	1/1/3.1	same	5	70	
abnormal	--	--					
1	27	1/1/3.2	1/1/3.3	same	5	70	
abnormal	--	--					
1	28	1/1/4	1/1/5	same	5	70	
abnormal	--	--					
1	29	1/1/6	1/1/7	same	5	70	normal
--	--						
1	30	1/1/8	1/1/9	same	5	70	
abnormal	--	--					
1	31	1/1/10	1/1/11	same	5	70	

```
abnormal  --
admin@9000-SMBIO-P01R01-1(config)#
```

5. If the optical line protection brief slot status shows bypass, please refer to Optical Line Protection bypass Status Investigation and Recovery to fix this problem.
6. If the optical line protection brief slot status shows the normal status of pass, please refer to continue troubleshooting.

6.1.2 Optical Line Protection bypass Status Investigation and Recovery

If the optical line protection brief slot status is bypass, it means that the link is abnormal, and we need to further investigate and restore this problem.

6.1.2.1 Check the Status of the Network Port

1. View the status of the corresponding network port through the show interface eth brief xxx command

Command: show interface eth brief <xxxx> (xxxx is the location number where the actual network port is located)

Corresponding network card number:

Front panel: 1/1

Back cover: 1/0

Back sled: 1/5

Example: show interface eth brief 1/0/5

```
admin@9000-SMBIO-P01R01-1(config)# show interface eth brief 1/0/5
  Interface          Admin  PHY      Flowcontrol  Mtu
Attr               Description
Eth-40G-1/0/0       ena     down     disable      9600
Redirect Port       slot1/2-0
Eth-40G-1/0/1       ena     up       disable      9600
Redirect Port       slot3-0
Eth-40G-1/0/2       ena     down     disable      9600
Redirect Port       slot4-0
Eth-40G-1/0/3       ena     up       disable      9600
Redirect Port       slot5-0
Eth-40G-1/0/4       ena     down     disable      9600
```

```

Redirect Port      slot6-0
  Eth-40G-1/0/5      ena          down      disable    9600
Redirect Port      slot7-0
  Eth-40G-1/0/6      ena          down      disable    9600
Redirect Port      slot8-0
  Eth-40G-1/0/7      !ena        down      disable    9600
Redirect Port      slot9-0
  Eth-40G-1/0/8      ena          down      disable    9600
Redirect Port      slot10-0
  Eth-40G-1/0/9      !ena        down      disable    9600
Redirect Port      slot11-0
  Eth-40G-1/0/10     ena          down      disable    9600
Redirect Port      slot12-0
  Eth-40G-1/0/11     ena          down      disable    9600
Redirect Port      slot13-0
  Eth-40G-1/0/12     ena          down      disable    9600
Redirect Port      slot14-0
  Eth-10G-1/0/13     ena          up        disable    9600
Redirect Port      bf-pci0
admin@9000-SMBIO-P01R01-1(config)#

```

2. If it shows ena down, you need to enter the computer room to check whether the physical link is faulty

```

admin@9000-SMBIO-P01R01-1(config)# show interface eth brief 1/0/5
  Interface      Admin  PHY      Flowcontrol  Mtu
Attr            Description
  Eth-40G-1/0/0  ena    down     disable      9600
Redirect Port    slot1/2-0
  Eth-40G-1/0/1  ena    up       disable      9600
Redirect Port    slot3-0
  Eth-40G-1/0/2  ena    down     disable      9600
Redirect Port    slot4-0
  Eth-40G-1/0/3  ena    up       disable      9600
Redirect Port    slot5-0
  Eth-40G-1/0/4  ena    down     disable      9600
Redirect Port    slot6-0
  Eth-40G-1/0/5  ena    down     disable      9600
Redirect Port    slot7-0
  Eth-40G-1/0/6  ena    down     disable      9600
Redirect Port    slot8-0
  Eth-40G-1/0/7  !ena   down     disable      9600

```

```

Redirect Port      slot9-0
  Eth-40G-1/0/8      ena          down      disable    9600
Redirect Port      slot10-0
  Eth-40G-1/0/9      !ena        down      disable    9600
Redirect Port      slot11-0
  Eth-40G-1/0/10     ena          down      disable    9600
Redirect Port      slot12-0
  Eth-40G-1/0/11     ena          down      disable    9600
Redirect Port      slot13-0
  Eth-40G-1/0/12     ena          down      disable    9600
Redirect Port      slot14-0
  Eth-10G-1/0/13     ena          up        disable    9600
Redirect Port      bf-pci0
admin@9000-SMBIO-P01R01-1(config)#

```

3. If it shows ! ena down requires manual no shutdown

```

admin@9000-SMBIO-P01R01-1(config)# show interface eth brief 1/0/5
  Interface      Admin      PHY      Flowcontrol      Mtu
Attr      Description
  Eth-40G-1/0/0      ena          down      disable    9600
Redirect Port      slot1/2-0
  Eth-40G-1/0/1      ena          up        disable    9600
Redirect Port      slot3-0
  Eth-40G-1/0/2      ena          down      disable    9600
Redirect Port      slot4-0
  Eth-40G-1/0/3      ena          up        disable    9600
Redirect Port      slot5-0
  Eth-40G-1/0/4      ena          down      disable    9600
Redirect Port      slot6-0
  Eth-40G-1/0/5      ena          down      disable    9600
Redirect Port      slot7-0
  Eth-40G-1/0/6      ena          down      disable    9600
Redirect Port      slot8-0
  Eth-40G-1/0/7      !ena        down      disable    9600
Redirect Port      slot9-0
  Eth-40G-1/0/8      ena          down      disable    9600
Redirect Port      slot10-0
  Eth-40G-1/0/9      !ena        down      disable    9600
Redirect Port      slot11-0
  Eth-40G-1/0/10     ena          down      disable    9600
Redirect Port      slot12-0

```

```

    Eth-40G-1/0/11      ena      down      disable      9600
Redirect Port      slot13-0
    Eth-40G-1/0/12      ena      down      disable      9600
Redirect Port      slot14-0
    Eth-10G-1/0/13      ena      up       disable      9600
Redirect Port      bf-pci0
admin@9000-SMBIO-P01R01-1(config)#

```

4. If the corresponding link status is normal, continue troubleshooting according to the abnormal BFD keep-alive status

6.1.2.2 Set the Status of the Network Port

1. Enter the network port you want to operate through the interface command

Command: inter face <port number>

Port number format: the combination of the last 3 digits of the display name when the port number is show interface eth brief

Example:

```

admin@9000-SMBIO-P01R01-1(config)# show interface eth brief 1/5
  Interface      Admin      PHY      Flowcontrol      Mtu
Attr      Description
  Eth-10G-1/5/0      ena      down      disable      9600
Link Port      RTM0-0
  Eth-10G-1/5/1      ena      up       disable      9600
Link Port      RTM0-1
  Eth-10G-1/5/2      ena      up       disable      9600
Link Port      RTM0-2
  Eth-10G-1/5/3      ena      up       disable      9600
Link Port      RTM0-3
  Eth-10G-1/5/4      ena      up       disable      9600
Link Port      RTM1-0
  Eth-10G-1/5/5      ena      up       disable      9600
Link Port      RTM1-1
  Eth-10G-1/5/6      ena      up       disable      9600
Link Port      RTM1-2

```


Eth-10G-1/5/7	ena	up	disable	9600
Link Port	RTM1-3			

Input: interface eth 1/5/0

```
admin@9000-SMBIO-P01R01-1(config)# interface eth 1/5/0
admin@9000-SMBIO-P01R01-1(config-eth-10G-1/5/0)#
```

2. View the current configuration of the port through the show this command

Command: show this

```
admin@9000-SMBIO-P01R01-1(config-eth-10G-1/5/0)# show this
current running configuration of this node:
  shutdown
  attr port_type linkport

admin@9000-SMBIO-P01R01-1(config-eth-10G-1/5/0)#
```

3. Set the port status through the shutdown/no shutdown command

Command: shutdown/no shutdown

```
admin@9000-SMBIO-P01R01-1(config-eth-10G-1/5/0)# no shutdown
admin@9000-SMBIO-P01R01-1(config-eth-10G-1/5/0)#
```

4. Verify whether the OLP is back to normal, if the OLP status is still abnormal, it is necessary to further restore the OLP.

6.1.2.3 Clear Link Group Shock

1. Enter the specified link group through the linkpg id command

Command: linkpg id <link group id>

Example: linkpg id 1

```
admin@9000-SMBIO-P01R01-1(config)# show linkpg brief slot 1
```

Slot	Id	Uplinkport	Downlinkport	Router	Shock	Rate(%)	State
Optdev		Optstaus					
1	1	1/5/0	1/5/1	same	20	70	normal
1/1/3		pass					
1	2	1/5/2	1/5/3	same	5	70	normal
--	--						
1	3	1/5/4	1/5/5	same	5	70	normal
--	--						
1	4	1/5/6	1/5/7	same	5	70	normal
--	--						
1	5	1/5/8	1/5/9	same	5	70	
abnormal	--	--					
1	6	1/5/10	1/5/11	same	5	70	
abnormal	--	--					
1	7	1/5/12	1/5/13	same	5	70	
abnormal	--	--					
1	8	1/5/14	1/5/15	same	5	70	
abnormal	--	--					
1	9	1/5/16	1/5/17	same	5	70	
abnormal	--	--					
1	10	1/5/18	1/5/19	same	5	70	
abnormal	--	--					
1	11	1/5/20	1/5/21	same	5	70	
abnormal	--	--					
1	12	1/5/22	1/5/23	same	5	70	
abnormal	--	--					
1	13	1/5/24	1/5/25	same	5	70	
abnormal	--	--					
1	14	1/5/26	1/5/27	same	5	70	
abnormal	--	--					
1	15	1/5/28	1/5/29	same	5	70	
abnormal	--	--					
1	16	1/5/30	1/5/31	same	5	70	
abnormal	--	--					
1	21	1/1/0.2	1/1/0.3	same	5	70	
abnormal	--	--					
1	22	1/1/1.0	1/1/1.1	same	5	70	
abnormal	--	--					
1	23	1/1/1.2	1/1/1.3	same	5	70	
abnormal	--	--					
1	24	1/1/2.0	1/1/2.1	same	5	70	
abnormal	--	--					

```

1      25      1/1/2.2      1/1/2.3      same      5      70
abnormal --      --
1      26      1/1/3.0      1/1/3.1      same      5      70
abnormal --      --
1      27      1/1/3.2      1/1/3.3      same      5      70
abnormal --      --
1      28      1/1/4        1/1/5        same      5      70
abnormal --      --
1      29      1/1/6        1/1/7        same      5      70      normal
--      --
1      30      1/1/8        1/1/9        same      5      70
abnormal --      --
1      31      1/1/10       1/1/11       same      5      70
abnormal --      --
admin@9000-SMBIO-P01R01-1(config)#
admin@9000-SMBIO-P01R01-1(config)# linkpg id 1
admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#

```

2. Clear the shock through the clear shock command

Command: clear shock

```

admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#clear shock
admin@9000-SMBIO-P01R01-1(config-slot-1-linkpg-1)#

```

3. Check the OLP status again, if it is still not restored, further check the OLP configuration

6.1.2.4 View OLP Configuration

1. Enter the OLP configuration layer through slot 1 optdev 1

Command: slot 1 optdev 1

```

admin@9000-SMBIO-P01R01-1(config)# slot 1 optdev 1
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#

```

2. Check the OLP configuration through show this

```

admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#show this
current running configuration of this node:
slot 1 optdev 1
  channel 3 type xinNuo_6500 ip 192.168.40.76 port 6800
  channel 3 heart interval 2 count 6
  channel 3 auto-switchback on
  channel 3 auto-switchback delay 2
  channel 3 workmode auto
  channel 3 poll-state time 1
!exit
exit
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#

```

3. If you find that the configuration of OLP is wrong, you can reset it by the following command

a. Set the OLP working mode (configure according to actual needs)

Command: channel <OLP brief slot number> workmode <auto/force-pass/force-pass>

b. Configure OLP automatic switchback (not necessary)

Command: channel <OLP brief slot number> auto-switchback <on/off>

c. Configure OLP automatic switchback delay (not necessary)

Command: channel <OLP brief slot number> auto-switchback delay time (seconds)

6.1.3 BFD Keep-alive Status is Abnormal

6.1.3.1 View the BFD Keep-alive Status of SMBIO and NPB

1. Enter the show portgroup all detail command to view the keep-alive status

Command: show portgroup all detail

```

admin@9000-SMBIO-P01R01-1(config)# show portgroup all detail
Portgroup Global Info(Max Portgroups:16, Max Ports:1024):
Allocate Portgroups:16
  Pg-id   Uid   Workmode   Hashmode   Ports   <act   :Inact>
Description
  1       0     dynamic   ip         1       <1     :0     >
PORT_OUTPUT_GROUP
                                     1/0/1<
active      online      repeat:1>

```

```

2      0      dynamic      ip      3      <1      :2      >
PORT_OUTPUT_GROUP
1/0/5<
inactive      offline      repeat:1>
1/0/9<
inactive      offline      repeat:1>
1/0/3<
active      online      repeat:1>
3      0      dynamic      ip      1      <1      :0      >
PORT_OUTPUT_GROUP
1/1/0.0<
active      offline      repeat:1>
admin@9000-SMBIO-P01R01-1(config)#

```

6.1.3.2 View BFD Keep-alive Configuration

1. Enter the specified port group through the portgroup id command

Command: portgroup id <Pg-id>

Example: portgroup id 1

```

admin@9000-SMBIO-P01R01-1(config)# portgroup id 1
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#

```

2. Check whether the current BFD configuration is correct through the command show this

Command: show this

```

admin@9000-SMBIO-P01R01-1(config-portgroup-1)# show this
current running configuration of this node:
mode dynamic
port add 1/0/1 ip 10.252.19.1 mac 90:00:00:91:40:43 repeat 1
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#

```

3. If you find a keep-alive configuration error, you need to delete this configuration and add it again

Delete command: port del <port serial number>

Example: port del 1/0/1

```
admin@9000-SMBIO-P01R01-1(config-portgroup-1)# port del 1/0/1
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#
```

Add command: port add <port serial number> ip <ip address> mac <mac address> repeat 1

Sample: port add 1/0/1 ip 10.252.19.1 mac 90:00:00:91:40:43 repeat 1

```
admin@9000-SMBIO-P01R01-1(config-portgroup-1)# port add 1/0/1 ip
10.252.19.1 mac 90:00:00:91:40:43 repeat 1
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#
```

4. Modify the mode

Command: mode <dynamic/static>

Example: mode dynamic

```
admin@9000-SMBIO-P01R01-1(config-portgroup-1)# mode dynamic
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#
```

6.1.3.3 View/Set Port Status

1. Enter show interface eth brief on the command line to view the port status

Command: show interface eth brief <port group>

Port group:

Back cover: 1/0

Front panel: 1/1

Back sled: 1/5

Example: show interface eth brief 1/0

```
admin@9000-SMBIO-P01R01-1(config)# show interface eth brief 1/0
```

Interface	Admin	PHY	Flowcontrol	Mtu
Attr	Description			
Eth-40G-1/0/0	ena	down	disable	9600

```

Redirect Port      slot1/2-0
  Eth-40G-1/0/1      ena          up          disable    9600
Redirect Port      slot3-0
  Eth-40G-1/0/2      ena          down        disable    9600
Redirect Port      slot4-0
  Eth-40G-1/0/3      ena          down        disable    9600
Redirect Port      slot5-0
  Eth-40G-1/0/4      ena          down        disable    9600
Redirect Port      slot6-0
  Eth-40G-1/0/5      ena          down        disable    9600
Redirect Port      slot7-0
  Eth-40G-1/0/6      ena          down        disable    9600
Redirect Port      slot8-0
  Eth-40G-1/0/7      !ena        down        disable    9600
Redirect Port      slot9-0
  Eth-40G-1/0/8      ena          down        disable    9600
Redirect Port      slot10-0
  Eth-40G-1/0/9      !ena        down        disable    9600
Redirect Port      slot11-0
  Eth-40G-1/0/10     ena          down        disable    9600
Redirect Port      slot12-0
  Eth-40G-1/0/11     ena          down        disable    9600
Redirect Port      slot13-0
  Eth-40G-1/0/12     ena          down        disable    9600
Redirect Port      slot14-0
  Eth-10G-1/0/13     ena          up          disable    9600
Redirect Port      bf-pci0
admin@9000-SMBIO-P01R01-1(config)#

```

2. If the port shows ena down, you need to further investigate whether the corresponding NPB device is operating normally

3. If the port shows! Ena down, you need to enter the interface configuration layer through the interface command

Command: interface <interface name>

Example: interface eth 1/0/3

```

admin@9000-SMBIO-P01R01-1(config)# interface eth 1/0/3
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)#

```

4. Enter show this on the command line to view the port configuration

Command: show this

```
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)# show this
current running configuration of this node:
  shutdown
  auto-negotiation
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)#
```

5. Modify the configuration

- a. Modify the status of the network card: shutdown/no shutdown

Command: shutdown/no shutdown

Example: no shutdown

```
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)# no shutdown
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)#
```

- b. Setting mode: auto-negotiation

Command: auto-negotiation

```
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)# auto-negotiation
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)#
```

6.2 Verify the installation

After TSG-OS' installation and configuration, it's recommended to check there are any problems with the TSG-9140 or not. There's a tool named "tsg-diagnose" to verify all service in TSG-9140 is running and work well.

1. Login to NPB by SSH as an administrator.

```
# ssh admin@192.168.100.1
```


2.Start “tsg-diagnose” service. This service prepares all test resources such as the test clients, servers (running in containers) and the virtual networks.

```
$ sudo systemctl start tsg-diagnose
```

3.Run the “tsg-diagnose-oneshot” with root privilege, wait for the testing result.

```
# sudo tsg-diagnose-oneshot
[admin@localhost ~]$ sudo tsg-diagnose-oneshot
RUN 1
#####Test start time: 2021-09-27
08:32:08#####
test_securityPolicy_bypass (__main__.SslUnitTest) ... ok
test_securityPolicy_intercept (__main__.SslUnitTest) ... ok
test_securityPolicy_intercept_certerrExpired (__main__.SslUnitTest) ...
ok
test_securityPolicy_intercept_certerrSelf_signed
(__main__.SslUnitTest) ... ok
test_securityPolicy_intercept_certerrUntrusted_root
(__main__.SslUnitTest) ... ok
test_proxyPolicy_ssl_redirect (__main__.SslUnitTest) ... ok
test_proxyPolicy_ssl_block (__main__.SslUnitTest) ... ok
test_proxyPolicy_ssl_replace (__main__.SslUnitTest) ... ok
test_proxyPolicy_ssl_hijack (__main__.SslUnitTest) ... ok
test_proxyPolicy_ssl_insert (__main__.SslUnitTest) ... ok
test_proxyPolicy_http_redirect (__main__.SslUnitTest) ... ok
test_proxyPolicy_http_block (__main__.SslUnitTest) ... ok
test_proxyPolicy_http_replace (__main__.SslUnitTest) ... ok
test_proxyPolicy_http_hijack (__main__.SslUnitTest) ... ok
test_proxyPolicy_http_insert (__main__.SslUnitTest) ... ok
test_https_con_traffic_1k (__main__.SslUnitTest) ... ok
test_https_con_traffic_4k (__main__.SslUnitTest) ... ok
test_https_con_traffic_16k (__main__.SslUnitTest) ... ok
test_https_con_traffic_64k (__main__.SslUnitTest) ... ok
test_https_con_traffic_256k (__main__.SslUnitTest) ... ok
test_https_con_traffic_1M (__main__.SslUnitTest) ... ok
test_https_con_traffic_4M (__main__.SslUnitTest) ... ok
test_https_con_traffic_16M (__main__.SslUnitTest) ... ok
test_https_con_traffic_64M (__main__.SslUnitTest) ... ok
test_http_firewall_allow (__main__.SslUnitTest) ... ok
test_http_firewall_deny_drop (__main__.SslUnitTest) ... ok
```

```

test_http_firewall_deny_rst (__main__.SslUnitTest) ... ok
test_http_firewall_deny_block (__main__.SslUnitTest) ... ok
test_ssl_firewall_allow (__main__.SslUnitTest) ... ok
test_ssl_firewall_deny_drop (__main__.SslUnitTest) ... ok
test_ssl_firewall_deny_rst (__main__.SslUnitTest) ... ok
test_dnsRequest_deny_drop (__main__.SslUnitTest) ... ok
test_dnsRequest_deny_redirect_a (__main__.SslUnitTest) ... ok
test_dnsRequest_deny_redirect_aaaa (__main__.SslUnitTest) ... ok
test_dnsRequest_deny_redirect_a_range_ttl (__main__.SslUnitTest) ... ok
test_dnsRequest_deny_redirect_aaaa_range_ttl (__main__.SslUnitTest) ...
ok

=====Test end time: 2021-09-27
08:32:35=====

```

Wait for a few minutes, and all testing result with “OK” like follows means all services in the TSG-9140 is running and work well.

You can also let “tsg-diagnose” run periodically by starting the service “tsg-diagnose-periodical.service”. For example:

```
$ sudo systemctl start tsg-diagnose-periodical.service
```

To view the test results:

```
$ sudo journalctl -f -u tsg-diagnose-periodical.service
```

To stop the service:

```
$ sudo systemctl stop tsg-diagnose-periodical.service
```

4. Stop the “tsg-diagnose” service to destroy all test resources.

```
$ sudo systemctl stop tsg-diagnose.service
```

6.3 TSG-OS Temporarily enable/disable a Certain Service

1. Log in to the NPB device via ssh
2. The terminal creates a folder through the mkdir command

Command: mkdir mnt_tmp

```
[admin@localhost ~]$ mkdir mnt_tmp
[admin@localhost ~]$ ls
mnt_tmp
[admin@localhost ~]$
```

3. Mount sda4 to this directory

Command: sudo mount /dev/sda4 mnt_tmp/

```
[admin@localhost ~]$ sudo mount /dev/sda4 mnt_tmp/
[admin@localhost ~]$
```

4. Terminal enable/disable a service

Command: sudo systemctl --root=./mnt_tmp enable <service name>

Example: sudo systemctl --root=./mnt_tmp enable nz-promtail.service

```
[admin@localhost ~]$ sudo systemctl --root=./mnt_tmp enable nz-
promtail.service
```

6.4 TSG-OS Prompts No Such Partition Error when Starting

```
Loading TSG-OS vv21.08-rc1-51f8a83 (9000-NPB-P01R01) ...
error: no such partition.
Loading TSG-OS vv21.08-rc1-51f8a83 (9000-NPB-P01R01) initial ramdisk ...
error: you need to load the kernel first.

Press any key to continue...
```

The reason for this problem is that an external hard disk/U disk is connected to the NPB device, which causes the original system partition to be found when the system starts. You need to remove the external hard disk/U disk and then restart the NPB device.

6.5 TSG-OS Executes the onie-reboot-xxx Command to No Effect

After executing the onie-reboot-xxx series of commands, it prompts Invalid BootNext Valueooo*. If the onie system is not entered after restarting, follow the steps below to restore.

```
[root@localhost ~]#
[root@localhost ~]#
[root@localhost ~]# onie-reboot-uninstall
Rebooting into OS uninstall mode...
Invalid BootNext value0000*
ERROR: Problems setting UEFI BootNext variable
/lib/onie/common-blkdev: line 37: grub-reboot: command not found
[ OK ] Stopped Tango Frontend Engine - Running Environment Setup.
[ OK ] Stopped target Network is Online.
[ OK ] Stopped Login Service.
[ OK ] Stopped Logout off all iSCSI sessions on shutdown.
[ 490.793815] i40e 0000:01:00.0: VF 0 successfully unset unicast promiscuous mode
[ OK ] Stopped Marsio ZeroCopy Driver Daemon.
Stopping Setup/Unsetup mrzcod runtime environment...
```

1. Execute efibootmgr -v to view the current startup items

Command: efibootmgr -v

```
[root@localhost ~]# efibootmgr -v
BootCurrent: 0004
Timeout: 1 seconds
BootOrder: 0004,0001,0002,0003,0000
Boot0000* ONIE: Open Network Install Environment VenHw(99e275e7-75a0-4b37-a2e6-c5385e6c00cb)
Boot0001* ONIE: Open Network Install Environment HD(1,GPT,c6a1e2c5-3735-45c4-9590-12a4072636be,0x800,0x80000)/File(\EFI\onie\grubx64.efi)
Boot0002* Hard Drive BBS(HD,0x0) .GO..NO.....o.S.a.m.s.u.n.g. .S.S.D. .8.6.0. .P.R.O. .2.5.6.G.B.....A.....>..Gd-; .A..
MQ. L.4.S.W.2.X.N.R.0.0.7.0.1.9.7. .T. ....BO
Boot0003* UEFI: Built-in EFI Shell VenMedia(5023b95c-d626-429b-a648-bd47664c8012) .BO
Boot0004* TSG-OS: vv21.07.3-7341b2f (9000-NPB-P01R01) HD(1,GPT,c6a1e2c5-3735-45c4-9590-12a4072636be,0x800,0x80000)/File(\EFI\TSG-OS\grubx64.efi)
[root@localhost ~]#
```

2. Delete the wrong startup item of VenHw

Command: efibootmgr -b <boot item ID> -B

Example: efibootmgr -b 0000 -B

3. Re-execute the onie-reboot-xxx command

6.6 Error Loading Configuration File of SMBIO

The SMBIO device prompts an error when loading the configuration file through the load command. The reason is that the relevant configuration of the current SMBIO device already exists. If you need to reload, you need to destroy the configuration and then reload it.

Command: erase running-config

```
admin@9000-SMBIO-P01R01-1(config)# erase running-config
!erase current running configuration
  Erase configuration of node successly
  Erase configuration of node successly
... ..
```

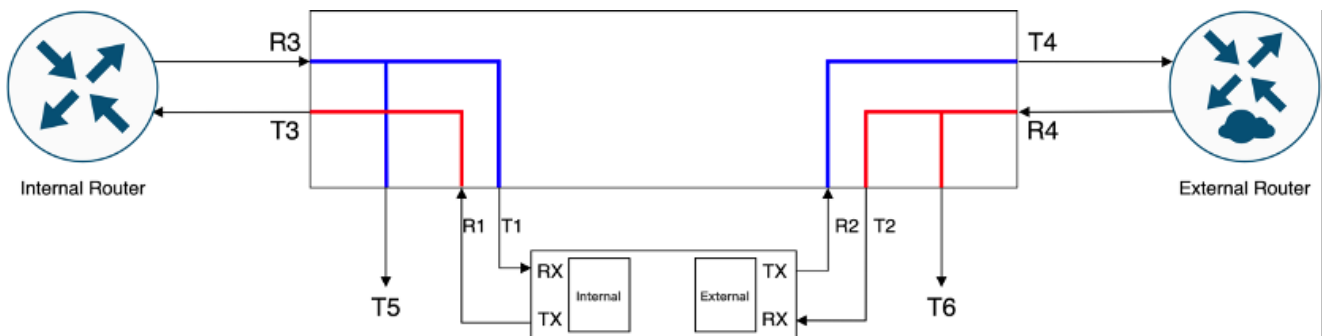
7 Appendix Recommended Network Topology and Address Planning

- Connection with OPB Equipment
- Precautions for Policy Log IP Address Planning

7.1 Connection with OPB Equipment

Note: This topology example uses the 9000-SMBRTM-32XE device as a template.

As shown in the figure below, the Internal Router is connected to the R3 T3 interface of the corresponding OLP brief slot device, and the R1 T1 corresponding to the OLP brief slot is connected to the internal type port in the specified link group of the 9000-SMBRTM-32XE device (such as link 1 The Eth-10G-1/5/1 port of the group), the 9000-SMBRTM-32XE device is connected to the External type port in the link group (such as the Eth-10G-1/5/0 port of the No. 1 link group) To the R2 T2 corresponding to the OLP brief slot, finally connect the corresponding T4 R4 of the OLP brief slot to the corresponding port of the External Router.



7.2 Precautions for Policy Log IP Address Planning

- ⚠ Please do not use the two network segments 10.254.0.0/16 and 10.253.0.0/16. These two network segments have been used by 9140 devices as internal management network segments.

8 Appendix Cli Reference

- SMBIO Device
 - Network Management Software
 - View OLP Status
 - View/Modify OLP Configuration
 - Check the Status of the Network Port
 - Set the Status of the Network Port (shutdown/no shutdown)
 - Check the BFD Keep-alive Status
 - Modify the BFD Keep-alive Configuration
 - View Port Count
 - Clear Port Count
 - View service
 - Modify Service Configuration
 - System Layer Commands
 - bdmng Tool
 - View Base Link Status
- SMBCX Equipment
 - Network Management Software
 - Check the Status of the Network Port
 - View Port Count
 - Clear Port Count
 - System Layer Commands
 - bdmng Tool
 - View Base Link Status
- NPB Equipment
 - System Layer Commands
 - View the Slot Number of the Current NPB
 - Calculate the Base IP of the NPB Device

8.1 SMBIO Device

8.1.1 Network Management Software

The commands introduced in this chapter are based on the commands executed by the configure terminal configuration layer of the kCli network management program.

8.1.1.1 View OLP Status

Command: show linkpg brief slot 1

```
admin@9000-SMBIO-P01R01-1(config)# show linkpg brief slot 1
```

Slot	Id	Uplinkport	Downlinkport	Router	Shock	Rate(%)	State
1	1	1/5/0	1/5/1	same	20	70	normal
1/1/3		pass					
1	2	1/5/2	1/5/3	same	5	70	normal
--	--						
1	3	1/5/4	1/5/5	same	5	70	normal
--	--						
1	4	1/5/6	1/5/7	same	5	70	normal
--	--						
1	5	1/5/8	1/5/9	same	5	70	
abnormal	--	--					
1	6	1/5/10	1/5/11	same	5	70	
abnormal	--	--					
1	7	1/5/12	1/5/13	same	5	70	
abnormal	--	--					
1	8	1/5/14	1/5/15	same	5	70	
abnormal	--	--					
1	9	1/5/16	1/5/17	same	5	70	
abnormal	--	--					
1	10	1/5/18	1/5/19	same	5	70	
abnormal	--	--					
1	11	1/5/20	1/5/21	same	5	70	
abnormal	--	--					
1	12	1/5/22	1/5/23	same	5	70	
abnormal	--	--					
1	13	1/5/24	1/5/25	same	5	70	
abnormal	--	--					
1	14	1/5/26	1/5/27	same	5	70	
abnormal	--	--					
1	15	1/5/28	1/5/29	same	5	70	
abnormal	--	--					
1	16	1/5/30	1/5/31	same	5	70	
abnormal	--	--					
1	21	1/1/0.2	1/1/0.3	same	5	70	
abnormal	--	--					
1	22	1/1/1.0	1/1/1.1	same	5	70	


```

abnormal  --      --
1      23      1/1/1.2      1/1/1.3      same      5      70
abnormal  --      --
1      24      1/1/2.0      1/1/2.1      same      5      70
abnormal  --      --
1      25      1/1/2.2      1/1/2.3      same      5      70
abnormal  --      --
1      26      1/1/3.0      1/1/3.1      same      5      70
abnormal  --      --
1      27      1/1/3.2      1/1/3.3      same      5      70
abnormal  --      --
1      28      1/1/4      1/1/5      same      5      70
abnormal  --      --
1      29      1/1/6      1/1/7      same      5      70      normal
--      --
1      30      1/1/8      1/1/9      same      5      70
abnormal  --      --
1      31      1/1/10      1/1/11      same      5      70
abnormal  --      --

admin@9000-SMBIO-P01R01-1(config)#

```

8.1.1.2 View/Modify OLP Configuration

1. Enter slot 1 optdev 1 in the terminal to enter the OLP configuration layer

Command: slot 1 optdev 1

```

admin@9000-SMBIO-P01R01-1(config)# slot 1 optdev 1
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#

```

2. Enter show this in the terminal to view the current configuration

Command: show this

```

admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#show this
current running configuration of this node:
slot 1 optdev 1
channel 3 type xinNuo_6500 ip 192.168.40.76 port 6800
channel 3 heart interval 2 count 6
channel 3 auto-switchback on

```

```

channel 3 auto-switchback delay 2
channel 3 workmode auto
channel 3 poll-state time 1
!exit
exit
admin@9000-SMBIO-P01R01-1(config-slot-1-optdev-1)#

```

3. Modify the OLP configuration

- a. Set the OLP working mode (configure according to actual needs)

Command: channel <OLP brief slot number> workmode <auto/force-pass/force-pass>

- b. Configure OLP automatic switchback (not necessary)

Command: channel <OLP brief slot number> auto-switchback <on/off>

- c Configure OLP automatic switchback delay (not necessary)

Command: channel <OLP brief slot number> auto-switchback delay time (seconds)

8.1.1.3 Check the Status of the Network Port

Command: show interface eth brief <network card serial number>

Network card serial number:

Front panel: 1/1

Back cover: 1/0

Back sled: 1/5

Example: show interface eth brief 1/1

```

admin@9000-SMBIO-P01R01-1(config)# show interface eth brief 1/1
  Interface      Admin    PHY      Flowcontrol    Mtu
Attr            Description
  Eth-10G-1/1/0.0  ena      up        disable        9600
Service Port    -
  Eth-10G-1/1/0.1  ena      down      disable        9600
Link Port       -
  Eth-10G-1/1/0.2  ena      down      disable        9600
Link Port       -
  Eth-10G-1/1/0.3  ena      down      disable        9600
Link Port       -

```

```

    Eth-10G-1/1/1.0      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/1.1      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/1.2      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/1.3      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/2.0      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/2.1      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/2.2      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/2.3      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/3.0      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/3.1      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/3.2      ena      down      disable      9600
Link Port -
    Eth-10G-1/1/3.3      ena      down      disable      9600
Link Port -
    Eth-100G-1/1/4        ena      down      disable      9600
Link Port -
    Eth-100G-1/1/5        ena      down      disable      9600
Link Port -
    Eth-40G-1/1/6         ena      up        disable      9600
Link Port -
    Eth-40G-1/1/7         ena      up        disable      9600
Link Port -
    Eth-100G-1/1/8        ena      down      disable      9600
Link Port -
    Eth-100G-1/1/9        ena      down      disable      9600
Link Port -
    Eth-100G-1/1/10       ena      down      disable      9600
Link Port -
    Eth-100G-1/1/11       ena      down      disable      9600
Link Port -
admin@9000-SMBIO-P01R01-1(config)#

```

8.1.1.4 Set the Status of the Network Port (shutdown/no shutdown)

1. Enter the network card you want to configure through the interface command

Command: interface eth <network card serial number>

Example: interface eth 1/0/3

```
admin@9000-SMBIO-P01R01-1(config)# interface eth 1/0/3
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)#
```

2. Enter the shutdown/no shutdown command to set the status of the network card

```
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)# no shutdown
admin@9000-SMBIO-P01R01-1(config-eth-40G-1/0/3)#
```

8.1.1.5 Check the BFD Keep-alive Status

Command: show portgroup all detail

```
admin@9000-SMBIO-P01R01-1(config)# show portgroup all detail
Portgroup Global Info(Max Portgroups:16, Max Ports:1024):
Allocate Portgroups:16
  Pg-id   Uid   Workmode   Hashmode   Ports   <act   :Inact>
Description
  1       0     dynamic   ip         1       <1     :0     >
PORT_OUTPUT_GROUP
                                     1/0/1<
active    online   repeat:1>
  2       0     dynamic   ip         3       <1     :2     >
PORT_OUTPUT_GROUP
                                     1/0/5<
inactive  offline  repeat:1>
                                     1/0/9<
inactive  offline  repeat:1>
                                     1/0/3<
active    online   repeat:1>
  3       0     dynamic   ip         1       <1     :0     >
PORT_OUTPUT_GROUP
```

```

active      offline    repeat:1>
admin@9000-SMBIO-P01R01-1(config)#
1/1/0.0<

```

8.1.1.6 Modify the BFD Keep-alive Configuration

1. Enter the specified port group through the portgroup id command

Command: portgroup id <Pg-id>

Example: portgroup id 1

```

admin@9000-SMBIO-P01R01-1(config)# portgroup id 1
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#

```

2. If you need to modify the keep-alive configuration, you need to delete this configuration and add it again

Delete configuration command: port del <port serial number>

Sample: port del 1/0/1

```

admin@9000-SMBIO-P01R01-1(config-portgroup-1)# port delete 1/0/1
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#

```

Add configuration command: port add <port serial number> ip <ip address> mac <mac address> repeat 1

Example: port add 1/0/1 ip 10.252.19.1 mac 90:00:00:91:40:43 repeat 1

```

admin@9000-SMBIO-P01R01-1(config-portgroup-1)# port add 1/0/1 ip
10.252.19.1 mac 90:00:00:91:40:43 repeat 1
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#

```

3. Modify the mode

Command: mode <dynamic/static>

Example: mode dynamic

```
admin@9000-SMBIO-P01R01-1(config-portgroup-1)# mode dynamic
admin@9000-SMBIO-P01R01-1(config-portgroup-1)#
```

8.1.1.7 View Port Count

Command: show interface eth statistics <network card serial number> both

Network card serial number:

Front panel: 1/1

Back cover: 1/0

Back sled: 1/5

Example: show interface eth statistics 1/0 both

```
admin@9000-SMBIO-P01R01-1(config)# show interface eth statistics 1/0
both
```

Interface	Dir	Total	UniCast	NoUniCast	
Err	Fcs	Err	Pps	Bps(Mb/s)	Max
Bps(Mb/s)					
Eth-40G-1/0/0	RX	0	0	0	
0	0		0.00	0.00	0.00
Eth-40G-1/0/0	TX	0	0	0	
0			0.00	0.00	0.00
Eth-40G-1/0/1	RX	2016204	2015488	716	
0	0		98.00	0.05	0.06
Eth-40G-1/0/1	TX	2015488	2015488	0	
0			98.00	0.05	0.06
Eth-40G-1/0/2	RX	0	0	0	
0	0		0.00	0.00	0.00
Eth-40G-1/0/2	TX	0	0	0	
0			0.00	0.00	0.00
Eth-40G-1/0/3	RX	1752413	1751482	931	
0	0		98.00	0.05	0.07
Eth-40G-1/0/3	TX	2019348	2019348	0	
0			98.00	0.05	0.07
Eth-40G-1/0/4	RX	0	0	0	
0	0		0.00	0.00	0.00
Eth-40G-1/0/4	TX	0	0	0	
0			0.00	0.00	0.00

Eth-40G-1/0/5		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/5		TX	0		0		0
0				0.00		0.00	0.00
Eth-40G-1/0/6		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/6		TX	0		0		0
0				0.00		0.00	0.00
Eth-40G-1/0/7		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/7		TX	0		0		0
0				0.00		0.00	0.00
Eth-40G-1/0/8		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/8		TX	0		0		0
0				0.00		0.00	0.00
Eth-40G-1/0/9		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/9		TX	0		0		0
0				0.00		0.00	0.00
Eth-40G-1/0/10		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/10		TX	0		0		0
0				0.00		0.00	0.00
Eth-40G-1/0/11		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/11		TX	0		0		0
0				0.00		0.00	0.00
Eth-40G-1/0/12		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-40G-1/0/12		TX	0		0		0
0				0.00		0.00	0.00
Eth-10G-1/0/13		RX	0		0		0
0	0			0.00		0.00	0.00
Eth-10G-1/0/13		TX	0		0		0
0				0.00		0.00	0.00

8.1.1.8 Clear Port Count

Command: clear interface eth statistics 1

```
admin@9000-SMBIO-P01R01-1(config)# clear interface eth statistics 1
admin@9000-SMBIO-P01R01-1(config)#
```

8.1.1.9 View service

Command: show service all

```
admin@9000-SMBIO-P01R01-1(config)# show service all
id  capability    action                                rule_cnt hit_cnt
-----
--
0   300           transparent                          0         0
1   300           drop                                0         0
2   300           transparent                          4         0
3   300           broadcast portgroup 2               4         0
4   300           forward portgroup 1                15        0
5   300           forward portgroup 2                 2        60
6   300           transparent                         1        88
7   300           N/A                                0         0
8   300           N/A                                0         0
9   300           N/A                                0         0
10  300           N/A                                0         0
11  300           N/A                                0         0
12  300           N/A                                0         0
13  300           N/A                                0         0
14  300           N/A                                0         0
15  300           N/A                                0         0
admin@9000-SMBIO-P01R01-1(config)#
```

8.1.1.10 Modify Service Configuration

1. Enter the service that needs to be modified through the service command

Command: service id <service id>

Example: service id 5


```
admin@9000-SMBIO-P01R01-1(config)# service id 5
admin@9000-SMBIO-P01R01-1(config-service-5)#
```

2. show this to view the current configuration

Command: show this

```
admin@9000-SMBIO-P01R01-1(config-service-5)# show this
current running configuration of this node:
!service id 5
  action forward-portgroup 2
  ip-mask add ruleid 1 proto 6 static
  ip-mask add ruleid 2 proto 17 static

admin@9000-SMBIO-P01R01-1(config-service-5)#
```

3. Modify the configuration

a. Modify the action

Command: action <broadcast-portgroup/drop/forward-portgroup/mirror-portgroup/transparent>

Example: action forward-portgroup 2

```
admin@9000-SMBIO-P01R01-1(config-service-5)# action forward-portgroup 2
admin@9000-SMBIO-P01R01-1(config-service-5)#
```

b. Add ip-mask

Command: ip-mask add ruleid <rule id> matching conditions

Example: ip-mask add ruleid 3 ipv4-sip 192.168.5.6/32

```
admin@9000-SMBIO-P01R01-1(config-service-5)# ip-mask add ruleid 3 ipv4-
sip 192.168.5.6/32
admin@9000-SMBIO-P01R01-1(config-service-5)#
```

c. delete ip-mask

Command: ip-mask del ruleid <rule id>

Example: ip-mask del ruleid 3

```
admin@9000-SMBIO-P01R01-1(config-service-5)# ip-mask del ruleid 3
admin@9000-SMBIO-P01R01-1(config-service-5)#
```

8.1.2 System Layer Commands

8.1.2.1 bdmng Tool

This function is in the /elite/sbin directory, you need to enter this directory first.

Command: cd /elite/sbin

1. View the status of the current sled inserted into the chassis

Command: ./bdmng discovery

```
root@9000-SMBIO-P01R01-1:~# cd /elite/sbin
root@9000-SMBIO-P01R01-1:/elite/sbin# ./bdmng discovery
SLOT          MANUF          PROD_NAME      SN
1.            GDNT           9000-SMBIO-P01R01  21426004
2.            GDNT           9000-SMBCX-P01R01  19C31046
3.            Joinus        ACB300-040-00     0220090200036
Get Device ID command failed
4.
5.            Joinus        ACB300-040-00     0219120200296
Get Device ID command failed
6.
Get Device ID command failed
7.
Get Device ID command failed
8.
Get Device ID command failed
9.
Get Device ID command failed
10.
11.           Joinus        ACB300-040-00     0220090200035
Get Device ID command failed
12.
Get Device ID command failed
```

```

13.
Get Device ID command failed
14.
root@9000-SMBIO-P01R01-1:/elite/sbin#

```

2. Power on and off the specified sled

Command: `./bdmng <reboot/poweroff/poweron> <logic number of the sled>`

Example: `./bdmng reboot 5`

```

root@9000-SMBIO-P01R01-1:/elite/sbin# ./bdmng reboot 5
rebooting slot-5 ...
FRU Device Id: 0 FRU Control Option: Cold Reset
frucontrol: ok
done
root@9000-SMBIO-P01R01-1:/elite/sbin#

```

8.1.2.2 View Base Link Status

1. base link comparison table

SN	MY_SLOT	logic_slot
1	FP_PORT	GE0
2	SLOT1_2	GE13
3	SLOT3	GE12
4	SLOT4	GE11
5	SLOT5	GE10
6	SLOT6	GE9

SN	MY_SLOT	logic_slot
7	SLOT7	GE8
8	SLOT8	GE7
9	SLOT9	GE6
10	SLOT10	GE5
11	SLOT11	GE4
12	SLOT12	GE3
13	SLOT13	GE2
14	SLOT14	GE1

2. Use the base ps command to view the status of the base

Command: base ps

```

root@9000-SMBIO-P01R01-1:/elite/sbin# base ps
argc=5
rpc address = 127.0.0.1:13
          ena/      speed/ link auto      STP                      lrn
inter    max  loop
          port  link    duplex scan neg?   state   pause  discrd ops
face frame  back
SGMII    ge0(  2)  down    -          SW  Yes  Forward  TX RX   None  FA
SGMII    ge1(  3)  down    -          SW  Yes  Forward  TX RX   None  FA
SGMII    ge2(  4)  down    -          SW  Yes  Forward  TX RX   None  FA
SGMII    ge3(  5)  down    -          SW  Yes  Forward  TX RX   None  FA
SGMII    ge4(  6)  up      1G  FD  SW  Yes  Forward              None  FA
SGMII    1518

```

SGMII 1518	ge5(7)	down	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge6(8)	down	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge7(9)	down	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge8(10)	down	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge9(11)	down	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge10(12)	up	1G	FD	SW	Yes	Forward		None	FA
SGMII 1518	ge11(13)	down	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge12(14)	up	1G	FD	SW	Yes	Forward		None	FA
SGMII 1518	ge13(15)	up	1G	FD	SW	Yes	Forward		None	FA
SGMII 1518	ge14(16)	!ena	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge15(17)	down	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge16(18)	!ena	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge17(19)	up	1G	FD	SW	No	Forward		None	FA
SGMII 1518	ge18(20)	!ena	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII 1518	ge19(21)	!ena	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII 1518	ge20(22)	!ena	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII 1518	ge21(23)	down	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII 1518	ge22(24)	!ena	-		SW	Yes	Forward	TX RX	None	FA
SGMII 1518	ge23(25)	!ena	-		SW	Yes	Forward	TX RX	None	FA
XFI 16356	xe0(26)	!ena	11G	FD	SW	No	Forward	TX RX	None	FA
XFI 16356	xe1(27)	!ena	11G	FD	SW	No	Forward	TX RX	None	FA
XFI 16356	xe2(28)	!ena	11G	FD	SW	No	Forward	TX RX	None	FA

```
XFI 16356
      xe3( 29)   !ena  11G  FD   SW  No   Forward  TX RX   None   FA
XFI 16356

root@9000-SMBIO-P01R01-1:/elite/sbin#
```

8.2 SMBCX Equipment

8.2.1 Network Management Software

8.2.1.1 Check the Status of the Network Port

Command: show interface eth brief <network card serial number>

Network card serial number:

Front panel: 2/1

Back cover: 2/0

Back sled: 2/5

Example: show interface eth brief 2/1

```
admin@9000-SMBCX-P01R01-2(config)# show interface eth brief 2/1
  Interface      Admin      PHY      Flowcontrol      Mtu
Attr            Description
  Eth-100G-2/1/0  ena        up        disable          9000
Redirect Port    -
  Eth-100G-2/1/1  ena        down      disable          9000
Redirect Port    -
  Eth-100G-2/1/2  ena        down      disable          9000
Redirect Port    -
  Eth-100G-2/1/3  ena        up        disable          9000
Redirect Port    -
  Eth-100G-2/1/4  ena        up        disable          9000
Redirect Port    -
  Eth-100G-2/1/5  ena        down      disable          9000
Redirect Port    -
  Eth-100G-2/1/6  ena        down      disable          9000
Redirect Port    -
  Eth-100G-2/1/7  ena        down      disable          9000
```

```

Redirect Port      -
  Eth-100G-2/1/8    ena      down    disable  9000
Redirect Port      -
  Eth-100G-2/1/9    ena      down    disable  9000
Redirect Port      -
  Eth-100G-2/1/10   ena      down    disable  9000
Redirect Port      -
  Eth-100G-2/1/11   ena      down    disable  9000
Redirect Port      -
admin@9000-SMBCX-P01R01-2(config)#

```

8.2.1.2 View Port Count

Command: show interface eth statistics <network card serial number> both

Network card serial number:

Front panel: 2/1

Back cover: 2/0

Example: show interface eth statistics 2/0 both

```

admin@9000-SMBCX-P01R01-2(config)# show interface eth statistics 2/0
both

```

Interface	Dir	Total	UniCast	NoUniCast
Err	Fcs	Err	Pps	Bps(Mb/s) Max
Bps(Mb/s)				
Eth-40G-2/0/0	RX	0	0	0
0	0	0.00	0.00	0.00
Eth-40G-2/0/0	TX	0	0	0
0	0	0.00	0.00	0.00
Eth-40G-2/0/1	RX	5831814	5810404	21410
0	0	13.00	0.01	95.01
Eth-40G-2/0/1	TX	8703368	8552499	150869
0	0	22.00	0.02	650.83
Eth-auto-2/0/2	RX	0	0	0
0	0	0.00	0.00	0.00
Eth-auto-2/0/2	TX	0	0	0
0	0	0.00	0.00	0.00
Eth-40G-2/0/3	RX	12536692	12528731	7961
0	0	6.00	0.02	116.56
Eth-40G-2/0/3	TX	21459263	21294730	164533

0				17.00	0.01	934.54
Eth-auto-2/0/4		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/4		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-auto-2/0/5		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/5		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-auto-2/0/6		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/6		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-auto-2/0/7		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/7		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-auto-2/0/8		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/8		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-40G-2/0/9		RX	36269	29697		6572
0	0			3.00	0.01	0.02
Eth-40G-2/0/9		TX	205328	39615		165713
0				14.00	0.01	0.14
Eth-auto-2/0/10		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/10		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-auto-2/0/11		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/11		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-auto-2/0/12		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-auto-2/0/12		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-10G-2/0/13		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-10G-2/0/13		TX	0	0	0	0
0				0.00	0.00	0.00
Eth-10G-2/0/14		RX	0	0	0	0
0	0			0.00	0.00	0.00
Eth-10G-2/0/14		TX	0	0	0	0


```

0                                0.00                0.00                0.00
admin@9000-SMBCX-P01R01-2(config)#

```

8.2.1.3 Clear Port Count

Command: clear interface eth statistics 2

```

admin@9000-SMBCX-P01R01-2(config)# clear interface eth statistics 2
admin@9000-SMBCX-P01R01-2(config)#

```

8.2.2 System Layer Commands

8.2.2.1 bdmng Tool

This function is in the /elite/sbin directory, you need to enter this directory first.

Command: cd /elite/sbin

1. View the status of the current sled inserted into the chassis

Command: ./bdmng discovery

```

[root@9000-SMBCX-P01R01-2 ~]# cd /elite/sbin
[root@9000-SMBCX-P01R01-2 sbin]# ./bdmng discovery
SLOT          MANUF          PROD_NAME      SN
1.            GDNT          9000-SMBIO-P01R01  21426004
2.            GDNT          9000-SMBCX-P01R01  19C31046
3.            Joinus       ACB300-040-00     0220090200036
Get Device ID command failed
4.
5.            Joinus       ACB300-040-00     0219120200296
Get Device ID command failed
6.
Get Device ID command failed
7.
Get Device ID command failed
8.
Get Device ID command failed
9.
Get Device ID command failed

```

```

10.
11.          Joinus          ACB300-040-00      0220090200035
Get Device ID command failed
12.
Get Device ID command failed
13.
Get Device ID command failed
14.
[root@9000-SMBCX-P01R01-2 sbin]#

```

2. Power on and off the specified sled

Command: `./bdmng <reboot/poweroff/poweron> <logic number of the sled>`

Example: `./bdmng reboot 5`

```

[root@9000-SMBCX-P01R01-2 sbin]# ./bdmng reboot 5
rebooting slot-5 ...
FRU Device Id: 0 FRU Control Option: Cold Reset
frucontrol: ok
done
[root@9000-SMBCX-P01R01-2 sbin]#

```

8.2.2.2 View Base Link Status

1. base link comparison table

SN	MY_SLOT	logic_slot
1	FP_PORT	GE0
2	SLOT1_2	GE13
3	SLOT3	GE12
4	SLOT4	GE11
5	SLOT5	GE10

SN	MY_SLOT	logic_slot
6	SLOT6	GE9
7	SLOT7	GE8
8	SLOT8	GE7
9	SLOT9	GE6
10	SLOT10	GE5
11	SLOT11	GE4
12	SLOT12	GE3
13	SLOT13	GE2
14	SLOT14	GE1

2. Use the base ps command to view the status of the base

Command: base ps

```
[root@9000-SMBCX-P01R01-2 sbin]# base ps
argc=5
rpc address = 127.0.0.1:13
          ena/      speed/ link auto      STP              lrn
inter    max  loop
          port  link    duplex scan neg?   state   pause  discrd ops
face frame  back
      ge0(  2) down    -      SW  Yes  Forward  TX RX   None  FA
SGMII 1518
      ge1(  3) down    -      SW  Yes  Forward  TX RX   None  FA
SGMII 1518
      ge2(  4) down    -      SW  Yes  Forward  TX RX   None  FA
SGMII 1518
      ge3(  5) down    -      SW  Yes  Forward  TX RX   None  FA
SGMII 1518
```

SGMII	ge4(6)	up	1G	FD	SW	Yes	Forward			None	FA
SGMII	1518	ge5(7)	down	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge6(8)	down	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge7(9)	down	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge8(10)	down	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge9(11)	down	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge10(12)	up	1G	FD	SW	Yes	Forward		None	FA
SGMII	1518	ge11(13)	down	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge12(14)	up	1G	FD	SW	Yes	Forward		None	FA
SGMII	1518	ge13(15)	up	1G	FD	SW	Yes	Forward		None	FA
SGMII	1518	ge14(16)	!ena	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge15(17)	down	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge16(18)	!ena	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge17(19)	up	1G	FD	SW	No	Forward		None	FA
SGMII	1518	ge18(20)	!ena	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII	1518	ge19(21)	!ena	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII	1518	ge20(22)	!ena	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII	1518	ge21(23)	!ena	1G	FD	SW	No	Forward	TX RX	None	FA
SGMII	1518	ge22(24)	!ena	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	ge23(25)	!ena	-	SW	Yes	Forward	TX RX		None	FA
SGMII	1518	xe0(26)	!ena	11G	FD	SW	No	Forward	TX RX	None	FA
XFI	16356	xe1(27)	!ena	11G	FD	SW	No	Forward	TX RX	None	FA

```
XFI 16356
      xe2( 28) !ena  11G  FD  SW  No  Forward  TX RX  None  FA
XFI 16356
      xe3( 29) !ena  11G  FD  SW  No  Forward  TX RX  None  FA
XFI 16356

[root@9000-SMBCX-P01R01-2 sbin]#
```

8.3 NPB Equipment

8.3.1 System Layer Commands

8.3.1.1 View the Slot Number of the Current NPB

1. Login to the corresponding NPB device using SSH

Username: admin

Password: admin

2. Enter the ipmitool command in the terminal

Command: sudo ipmitool picmg addrinfo

```
[admin@localhost ~]$ sudo ipmitool picmg addrinfo
Hardware Address : 0x45
IPMB-0 Address   : 0x8a
FRU ID           : 0x00
Site ID          : 0x00
Site Type        : ATCA board
[admin@localhost ~]$
```

3. The last digit of the Hardware Address item represents the slot number where the NPB device is located

Example: Hardware Address: 0x4**7**

Slot number: **7**

8.3.1.2 Calculate the Base IP of the NPB Device

1. Login to the corresponding NPB device using SSH

Username: admin

Password: admin

2. Refer to the chapter View the Current NPB Device Slot Number to obtain the secondary device slot number

3. Calculate base ip by slot number

Calculation method:

base ip = 10.254.<16+slot number>.1

or

base ip = 10.253.<16+slot number>.1

4. It can be accessed on SMBIO: 10.253.<16+slot number>.1 to access NPB
5. It can be accessed on SMBCX: 10.254.<16+slot number>.1 to access NPB